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# **CHAPTER 1**

## **INTRODUCTION AND ORIENTATION TO THE STUDY**

### **1.1 INTRODUCTION**

Having worked as a special needs education instructor and vice-president at a university in Ethiopia for the past eight years, the researcher realized that the inclusion of students with Visual Impairment (VI) has been complicated by several factors regarding the policies and practices of higher education institutions. For example, Ethiopian universities still accept students with VI only in certain fields of study (namely Social Science and Humanities). This practice limits the access to several fields that students with VI need to study. It is evident that concerted efforts are required in all countries to ensure the successful inclusion of students with impairments and thus to provide equal opportunities of access to education (Amadio, 2009:304).

According to United Nations conventions, all governments are currently required to ensure the rights and equal opportunities of peoples with impairments through the collaborative efforts of policy makers, practitioners, impaired people and their associations (Mji, MacLachlan, Melling-Williams & Gcaza, 2009:1). The role of teacher education is vital for higher education institutions to improve their support for learners with diverse needs (Opertti, Brady & Duncombe, 2009:209). Since the equal treatment of students is the responsibility of all staff (Quality Assurance Agency(QAA), 2010:11), all university staff need extensive training in special needs education in order to carry out their responsibilities and to make inclusion work (Sapon-Shevin, 2007:100). In the context of Ethiopia, the Ministry of Education/MoE (2006:24, 25) requires all teachers of students with VI to have a good understanding of the principles of inclusive education. This is achieved by the inclusion of introductory courses in special needs education in the regular teacher training programmes. This requirement was enforced after the launch of the Special Needs Education Programme Strategy in 2006. At the university where the research was conducted, however, there are many academic staff members who obtained their professional qualifications before the introduction of the strategy. Bearing this in mind, the researcher believes that the majority of lecturers at AAU do not know how to support students with VI in inclusive settings.

In addition, most of the facilities at the AAU were built 50 years ago; this means that progressive change in the buildings need to be made to meet the special needs of students with VI (Higher Education Relevance and Quality Agency, 2009:7). Under these circumstances it might be difficult



for the university to create an accessible inclusive learning environment for students with VI. At the same time, Ethiopian universities and lecturers expect students with VI to cope with the existing structures, instead of making adjustments to adapt them to the students' needs (MoE, 2006:i). As a result, the drop-out rate is becoming a critical problem at the university (MoE, 2006:5; Saint, 2004:92). Reducing educational wastage requires the development of support systems in inclusive higher education institutions (MoE, 2006: 28, 30). However, Ethiopian universities have been admitting students with VI without the provision of organized support. Students with VI receive some support from their peers and individual lecturers who are sympathetic to their situation (MoE, 2006:40). Since there is no organized form of support to accommodate them at AAU, students with VI encounter several challenges in their pursuit of higher education. To improve the situation the Ethiopian Ministry of Education demands that higher education institutions should undertake studies on the inclusion of all students with impairments, including students with VI (MoE, 2006:21, 23).

## **1.2 BACKGROUND TO THE STUDY**

As one of the oldest countries in Africa, Ethiopian traditional/religious education dates back to the beginning of Christianity (Teshome, 1979:22). In Ethiopia traditional education was dominated by the Orthodox Church for about 1,700 years (Saint, 2004:84; Teshome, 1979:22). In addition Ethiopian secular education was started only in the early 1900s (Teklehaimanot, 1999:6). The first public primary school was opened in Ethiopia in 1905 in order to provide modern education for the youth (Teshome, 1979:28). Soon after this several primary and secondary schools were founded across the country. However, higher education institutions were established at college level only in 1950 with the establishment of Trinity College (Saint, 2004:84). This college changed its name to Addis Ababa University (AAU) in 1974 (Teshome, 1979:62; Wakshum, 1999:81) and was the only university to admit students for degree programmes until 1993. Over the past two decades, however, 30 additional public universities have been established across the country, and have enrolled a substantial number of students (MoE, 2002:103; Saint, 2004:93).

The education of learners with impairments has a relatively recent history in Ethiopia. Formal special education started in the early 1920s, with missionaries taking the lead. It is generally accepted that special needs education in Ethiopia was started with the first special school for learners with VI established by missionaries in 1925 (Johnsen & Alemayehu, 2007:85).

Until the 1990s the only higher education institution that provided integrated education for students with and without impairment at degree level was the AAU. Since then the expansion of higher education institutions has contributed to an increase in the number of students with impairments enrolled for undergraduate programmes. In spite of the expansion of enrolment in the country, the education of students with impairments has been challenging (Saint, 2004:107) because the Ethiopian education policy lacks clarity about the practical delivery of support to students (MoE 2006:5). Several gaps have been identified in the provision of appropriate services for students with impairments as laid down in the principles of the Standard Rules on Equalization of Opportunities for Persons with Disabilities, as well as the Salamanca Frameworks for Action that were ratified by the Ethiopian Government (MoE, 2006:1). With the view to overcoming these gaps and fostering inclusive education at all levels of schooling, the Ethiopian government launched a Special Needs Education Programme Strategy (SNEPS) in 2006. Following the introduction of this federal level strategy, a new model of special needs education provision, commonly called *inclusive education* was adopted in the Ethiopian education system (MoE, 2006:1). As an inclusive approach is considered to be the new trend in Ethiopian higher education institutions, the identification and removal of barriers to inclusion and participation of all learners with significant impairments has become the central point of this approach and its implementation (MoE, 2006:1; Saint, 2004:107). The reason for the development of this strategy is to ensure the full inclusion of all learners with various impairments at all levels of schooling, including in higher education (MoE, 2006:1).

### **1.3 PROBLEM STATEMENT**

Even though a majority of UN member countries agreed to implement the Salamanca Framework of inclusive education, there is not enough information about the successful implementation of transformative principles of inclusion in developing countries as compared with developed countries (Nguyen, 2010:352). Opertti, Brady and Duncombe (2009: 212) note that identifying and removing educational, social and cultural barriers to participation and learning is a key feature of inclusive education. To this end the Ethiopian Ministry of Education has encouraged higher education institutions to conduct studies about the current status (quality and expansion) and main issues of inclusive education at all levels of schooling (MoE, 2006:6, 12, 17). The rationale for this research is that unless a critical analysis of the prevailing challenges is made and a set of intervention strategies is devised, it will be very difficult to ensure successful inclusive education for students with VI at higher education institutions according to the existing theoretical and legal

requirements of inclusive education. If Ethiopian higher education institutions do not overcome these challenges, their shift towards inclusion might be reversed. In order to contribute to the body of knowledge on the topic of inclusion in Ethiopian universities, this study focuses on the identification of potential solutions for the existing challenges at one university, called Addis Ababa University.

One of the most important actions envisaged in this study is the establishment of support structures for students with VI at AAU. This is because the need for developing an action plan that incorporates practical guidelines to establish these support systems and improve its inclusive educational practices is vital for the university. As a result the research problem of this study focuses on existing challenges experienced by students with VI, and the development of an action plan to better support them at AAU. Taking this into account, the researcher formulated the following research questions for this study:

### **Primary research question**

How best can an action plan be implemented over a period of five years to progressively increase the support for students with VI at Addis Ababa University?

### **Secondary research questions**

To answer the above question, the following secondary or sub-questions were formulated for this study:

1. *What are the challenges that students with VI face at Addis Ababa University?*
2. *What resources (human, physical and financial) are necessary to provide effective support for students with VI?*
3. *What solutions are available for Addis Ababa University to overcome the challenges or barriers that students with VI face?*
4. *What is the best way in which such a plan can be developed for Addis Ababa University?*

#### **4.1 AIMS OF THE RESEARCH**

The research aims for this study can therefore be formulated as follows:

##### **Primary research aim**

To determine how best an action plan can be implemented over a period of five years to increase progressively the support for students with VI at Addis Ababa University.

##### **Secondary aims**

In order to achieve the primary aim and to execute the research plan, the following secondary aims of the primary aim were formulated:

1. To identify the challenges or barriers that students with VI experience at Addis Ababa University;
2. To explore the resources that are necessary to provide effective support for students with VI at Addis Ababa University;
3. To determine solutions to overcome challenges or barriers that students with VI face at Addis Ababa University;
4. To determine the best way to develop such an action plan.

#### **1.5 DEMARCATION OF THE STUDY**

This study focused on the inclusion of students with VI only; no other impairments were considered. A detailed analysis was made of a single public university in Ethiopia, which is referred to as Addis Ababa University (AAU). This university was selected because it has had many years of experience in admitting many students with VI to degree programs. Of all the students enrolled in inclusive programmes offered at the selected university, the study focused on under-graduate students only. The reason for excluding post-graduate students was that there were no students with VI enrolled in these programmes during the period of the study. The researcher preferred to use experts who know the circumstances of AAU. Therefore, the number of participants in the Delphi investigation was restricted owing to the limited number of experts who have post-graduate degrees in the area of special needs education as well as management

experience. Thus, seven experts were asked to take part in the study, which was considered enough for the specific task of arranging the action plan according to priorities and a timeframe of implementation.

This study can be significant in the following ways:

1. It could contribute towards providing valuable information about the challenges and prospects of inclusive tertiary education of students with VI at Addis Ababa University (AAU), increasing the awareness of the community about the particular areas for intervention.
2. The study may provide AAU with a practical and context-appropriate action plan in order to improve its inclusive policies and practices for the maximum benefit of students with VI over the next five years.
3. The study will add to the body of knowledge of the transformation of tertiary institutions into fully inclusive institutions, which might at the same time foster a change of attitude from one model of thinking to another.
4. The study could also serve as a source for other researchers conducting studies about other categories of impairment and levels of inclusive schooling

## **1.6 RESEARCH DESIGN**

This section deals with the broad paradigms and specific methods which form the overall design of this study. The researcher adopted both the interpretive and critical paradigms as broad philosophical foundations of the study of the inclusion of students with VI at AAU.

### **Philosophical foundation**

The interpretive and critical approaches are the two fundamental paradigms that can be adopted in social science studies (Neuman, 2007:42). In particular, the interpretive approach strives to understand and interpret social reality in terms of its actors (Cohen, Manion & Morrison, 2000:28). The social reality that is the focus of this study is inclusive education. Interpretive studies also focus on the particular contexts in which participants live and work so that historical, social and cultural circumstances can be understood and interpreted from the participants' perspectives (Creswell, 2003: 8). Accordingly, the researcher worked within an interpretive paradigm to

understand and interpret the actual implementation of inclusive education at AAU from the participants' points of view.

As a category of the interpretive approach, exploratory research may be appropriate if the topic or issue is new or if no other researchers have written about it (Neuman, 2007:16; Teddlie & Tashakkori, 2009:25). It also allows for answering a range of exploratory questions using both qualitative and quantitative data (Teddlie & Tashakkori, 2009:25). As this study focuses on a new and unexplored issue with the aim of seeking the participants' views to answer exploratory research questions, it is exploratory in nature. In particular, this study applied an exploratory design to examine thoroughly the current challenges and educational prospects of students with VI in the inclusive context of AAU.

In addition to the exploratory approach, the researcher also adopted a critical approach which shares many interpretive features (Neuman, 2007:44). As discussed in both Chapters 2 and 4 (see 2.3.1.3 and 4.4.1), recent studies on disability have used the critical approach, specifically the critical disability paradigm, since it provides theoretical solutions to the structural, financial, social and cultural challenges that students with VI experience in an inclusive setting (Goodley, 2013:631). Therefore, this study applied the critical disability paradigm as a complementary philosophical foundation in order to critically explore the challenges that students with VI face and thus transform the inclusive policies and practices of AAU.

### **Design of the study**

Since interpretive and critical paradigms typically tend to be qualitative, this study was broadly designed in the qualitative paradigm (Creswell, 2003:18; Leedy & Ormrod, 2001:101). The rationale behind this is that the flexibility of the qualitative approach allows the researcher to let data and theory interact (Neuman, 2007:89). In addition, if a problem under investigation is relatively new, it merits a qualitative approach (Creswell, 2003:22). Qualitative research usually focuses on general research questions with the purpose of seeking a better understanding of complex situations from the participants' perspectives by collecting extensive verbal data and building inductively on the theory (Creswell, 2003:18; Leedy & Ormrod, 2001:101-102; Neuman, 2007:88). More studies of this kind are needed to gain a deeper understanding of the phenomenon of inclusive educational practices from the perspective of participants such as

school administrators, teachers and students who are involved in natural settings (Punch, 2000:100).

This study was also qualitative because it studied the implementation of inclusive education, a relatively new trend in Ethiopia, and because its practical consequences in higher education institutions were mainly unexplored. In other words, this study intended to be qualitative since it focused on a new and complex phenomenon (i.e., inclusive education) and sought detailed information from different participants.

This qualitative study combined two methods, namely case study and Delphi survey, because the researcher believed they could be instrumental in finding answers to the research questions posed (Teddlie & Tashakkori, 2009:25; Yin, 2009:8). The researcher applied a case study design to this study with the aim of making an in-depth analysis on the challenges that students with VI face at AAU. The study also included the Delphi method because the researcher believed it would help him create an effective five-year implementation plan based on the opinions of well-qualified and knowledgeable experts in the area of special needs education. The flexibility of the Delphi method to enable the researcher to use qualitative and quantitative data sources and forecast future directions in the inclusive higher education of students with VI was the main reason the method was applied in this study (Skulmoski, Hartman & Krahn, 2007:9). Furthermore this study included a review of literature that investigated some of the best practices from several sources in order to adapt them to the situation at AAU. The underlying reason for employing multiple methods is to ensure methodological triangulation and trustworthiness of the results of this study.

## **Research methods**

As discussed above, the study adopted both the case study and Delphi methods to examine qualitatively the prevailing challenges and prospects of inclusive educational practices at AAU. As a result, a set of open-ended interviews and semi-structured questionnaires were found appropriate to gather qualitative data from the participants.

To ensure that information-rich data were obtained, purposive sampling was used to select interviewees and Delphi participants from the population at AAU. Thus, eight students with VI, two lecturers, one head of department, one faculty dean, one administrative dean and seven Delphi experts were purposively selected to participate in this study. These participants were

selected from the entire population at AAU in order to achieve data triangulation that addressed the trustworthiness of the findings of this study.

## **Data analysis**

Large portions of qualitative and categorical data were collected by conducting a series of interviews and asking participants to complete questionnaires. The researcher then applied an inductive approach to categorize and analyse the data in the light of the research questions posed. Specifically, the data collected through interviews are presented in line with the research sub-questions and topics generated during the data analysis. Comparisons were also made between the responses of informants and the findings from the literature study. Broad themes were inductively identified during the data analysis. The responses of the Delphi participants to the questionnaires were grouped together to form categories based on the importance and practicality of each support measure included in the action plan. Eventually the researcher inductively drew from the findings and refined the action plan for AAU to progressively increase the support of students with VI over a period of five years.

## **1.7 CONCEPT CLARIFICATION**

This section presents the operational definitions of some important terms in order to explain how to the terms are conceptualized in this study

- **Inclusion** refers to an appropriate educational approach that tries to meet the diverse needs of all learners, including those with impairments, in a regular classroom or lecture hall (Chhabra, Srivastava & Srivastava, 2010:219; Walton & Lloyd, 2012:64).
- **Inclusive education** refers to a new and mandatory education system (the practical application of an inclusive approach) that is open to all learners, including those with impairments. It is a legal and logical choice to identify and address disability-related issues in higher education institutions (MoE, 2006:3; Tirussew, 2005:108,116; UNESCO, 2005:15).



- **Students with Visual Impairment (VI)** refer to those students who are legally blind or who use Braille and other non-visual sources for their education (Panda, 2008:117-118).
- **Delphi method** is a specific method where the researcher uses a series of questionnaires to obtain the opinions of experts (Okoli & Pawlowski, 2004:16). In this research the method was used to determine the importance and practicality of the items in the action plan developed for AAU. It could be considered as a group-decision technique for reaching the most reliable consensus of opinion among experts (Okoli & Pawlowski, 2004:19). In this research expert opinions were elicited regarding the support measures devised to support progressively students with VI over a period of five years.
- **Action plan** refers to a five-year strategic plan that entails the overall priorities and measures to be taken (Powney, 2002:8) by AAU in order to progressively support students with VI
- **Tertiary education/Higher education** is a university education organized for students to obtain their under-graduate or post-graduate degree (Federal Democratic Republic of Ethiopia House of Representatives, 2009:4977).
- **Curriculum adaptations** is used in this study as an umbrella term that refers to the process of changing or modifying the courses (e.g., course contents, delivery and materials) at a university in order to suit the special needs of students with VI. It is understood inclusively as it includes admission requirements, course selection and grading methods, as well as curriculum differentiation and the adaptation of study materials (Ashman, 2010:71; McCarthy & Hurst, 2001:9; Powney, 2002:23; Taishoff Center, 2010:2). However, for convenience sake differentiation and instructional requirements are discussed separately (see 3.2.7.2).
- **Challenges** refer to disabling conditions, such as barriers and constraints that restrict the full participation and inclusion of students with VI in all aspects of university life and education (MoE, 2006:1).

- **Prospects** refer to the opportunities for accessing resources available to students with VI as well as possible solutions and support measures designed to overcome the challenges of those students within the inclusive context of AAU (MoE, 2006:2). The realization of these opportunities will be achieved through the action plan that the researcher has developed for AAU in order to support students with VI over a period of five years (MoE, 2006:29).

## **1.8 STRUCTURE OF THE THESIS**

### **Chapter 1: Introduction to the study**

Chapter 1 is the introduction to the study. It outlines the background, problem statement, research questions, aims, demarcation and concept clarification of the study.

### **Chapter 2: Students with visual impairment and inclusion**

Chapter 2 deals with the review of the theoretical foundation and associated conceptual frameworks for inclusiveness and visual impairment. It also illustrates the previously developed international and local legal frameworks that guide the exploration of issues regarding visual impairment and inclusive higher education.

### **Chapter 3: Students with visual impairment in higher education**

Chapter 3 focuses on the review of the previous studies on the requirements of and responses of higher education institutions to the inclusion of students with VI. In addition, this chapter highlights the challenges that students with VI experience in higher education and identifies practical solutions from previous empirical studies and professional works. It also illustrates the best practices in the area of inclusive higher education with the aim of incorporating them into the action plan developed for AAU.

### **Chapter 4: Research methodology**

In this the broad paradigms and theoretical foundations that inform the overall designs and

methods of this study are described. The broad and specific designs and methods that the researcher used in the process of sampling, data collection, data analysis and interpretation are described.

### **Chapter 5: Data analysis and interpretation from interviews**

In Chapter 5 the methods used to analyse the data gathered from a set of interviews with different groups of informants are described.

### **Chapter 6: Data analysis and interpretation from Delphi investigation**

Chapter 6 presents an explanation of how the data gathered from Delphi experts in two rounds of questionnaires were analysed.

### **Chapter 7: Summary of findings, conclusions and recommendations**

Finally, the summary of findings as well as the action plan developed for improving the inclusive policies and practices at AAU are represented in Chapter 7.

## **1.9 CONCLUSION**

In this chapter the general background of the problem under investigation is explained. It includes a discussion of the problem statement and the aims as well as a demarcation of the study. In addition, it highlighted the research design, operational definitions of important terms and the organization of chapters in this study. In the next chapter the research is contextualized by means of a review of related literature on theoretical and conceptual frameworks as well as previously developed international and local legal frameworks; these guide the development of inclusive education in higher education institutions in order to meet the varied needs of students with VI.

## **CHAPTER 2**

### **STUDENTS WITH VISUAL IMPAIRMENT AND INCLUSION**

#### **2.1 INTRODUCTION**

In this chapter inclusive education is discussed to show why it is necessary to study the possibilities that the application of inclusive education offers by identifying practical activities to reflect the intention of the concept of inclusion. In order to place this study in a conceptual context, it is necessary to consult the literature concerning pertinent theories. The medical model, social model and critical disability theory will be examined in order to understand the need for a holistic change in higher education regarding the support for students with Visual Impairment (VI).

Without researching international law as well as the direction given by the national government of Ethiopia, an assessment of the practical consequences of support measures for AAU cannot be undertaken. Therefore, policies such as the Special Needs Education Programme Strategy (SNEPS), which was developed in 2006 by the Ethiopian Ministry of Education, will be discussed in relation to the identification and removal of barriers to students with VI in tertiary education. Lastly, attention will be given to students with VI in the context of tertiary education.

#### **2.2 INCLUSION**

Inclusion in this sense acknowledges the rights of students with impairments to education and the need to reduce barriers that hinder their learning and participation in all aspects of higher education (Booth & Ainscow, 2002:3; Walton & Lloyd, 2012:64). The most appropriate definition of inclusive education for this study is that it is the practical application of the theoretical concept of inclusion. Inclusive education refers to the full participation or incorporation of students with significant impairments into the general academic programs of higher education institutions irrespective of their impairments (Booth & Ainscow, 2002:3; Claiborne, Cornforth, Gibson & Smith, 2011:515; Connor, Gabel, Gallagher & Morton, 2011:445; Sapon-Shevin, 2007:14; Taishoff Centre, 2010:1). Inclusive education is becoming more accepted in most African countries and it is considered as an appropriate approach to involve students with impairment in educational settings and to allow access to the curriculum as full-time members of age-appropriate inclusive classrooms (Ainscow & Sandill, 2010:401; Ballard, 1997:245; Berlach & Chambers, 2010:530). In Botswana, for example, inclusive education refers to a situation where an education system

tries to meet the needs of students with impairments (Chhabra, Srivastava, & Srivastava, 2009:221). In South Africa the understanding of equity of all human beings has played a very important role in the inclusion of learners with impairments in higher education institutions (Watermeyer, Swartz, Lorenzo, Schneider & Priestley, 2006:172). The South African Education White Paper 6 describes the application of inclusive education as enabling education structures, systems and learning methodologies to meet the needs of all learners, including those with impairments (Department of Education, 2001:6).

In the Ethiopian context, inclusive education refers to a new education system that is open to all learners, including learners with impairments, and requires the identification and removal of barriers that hinder learning and participation in schools and higher education institutions (MoE, 2006:3; Tirussew, 2005:118-119). Even though inclusive education is a challenging process for both Ethiopian schools as well as higher education institutions, it is becoming a legal and logical commitment to address disability issues (Tirussew, 2005:108,116). Although the inclusive policy is not always applied practically, the shift towards inclusive education in Ethiopia has provided an opportunity for students with impairments at least to have access to educational institutions in their respective communities (Tirussew, 2005:115).

However, inclusive education seems to be a phenomenon that implies more than just dealing with diversity in the inclusive context (Meijer, 2001:116). It may be seen as part of a wider struggle to end exclusionary discourses and practices (Peters, 2007:117) on different levels in society (see 2.3.1.3). Inclusive education strives to avoid discrimination against minorities on the basis of sensory or other differences (Ballard, 1997:245). It serves as a prompt for managers at institutions to evaluate the system, physical conditions, as well as the capacity of human resources at their institutions with the aim of including all learners and meeting their particular needs (Tirussew, 2005:115). Unless they challenge all exclusionary policies and practices in education, the situation will not change for the better (Peters, 2007:117). To this end, the leaders of these institutions should examine their overall inclusive policies in the light of the appropriate theoretical frameworks. For this reason, the existing paradigms and theories as well as their educational implications on visual impairment and inclusive education in higher education institutions are discussed in the next section.

## **2.3 DISCOURSES ON INCLUSIVE EDUCATION**

As Peters (2007:99) argues, the broad paradigms and related theories inform inclusive policies and practices of an institution because they determine the understanding and response to learners with impairments and their inclusion in all aspects of higher education. The practical application of inclusive education in developing and developed countries differs according to the paradigms and theories the education institutions have adopted. Institutions should choose paradigms and theories that are appropriate to their contexts in order to maintain effective inclusive education for students with impairments, including students with VI.

### **2.3.1 Paradigms and their practical implications in inclusion**

The political and social nature of inclusion should be understood in the light of the paradigms that shape the concept of inclusivity (Ballard, 1997:245), in particular, the wider paradigm in which disability is understood (UNESCO, 2001: 21). Being a guide to our world view, paradigms influence the attitudes and actions of people concerning disability issues and services needed. For example, a functionalist paradigm assumes that social reality (inclusive education in the case of this study) is objective, orderly and rational and that individuals with disabilities have inherently pathological conditions that can be objectively diagnosed, treated and cured. On the other hand, a structuralist paradigm focuses on material conditions of existence and emphasizes processes or relations within class structures. In brief, researchers often use the medical model of disability within a functionalist paradigm, whereas they use the social model of disability within a structuralist paradigm (Gabel & Peters, 2004:587). Despite the availability of several theoretical models, the medical and social models are most often used by researchers, including those who favour functionalism and structuralism, to conceptualize disability issues (Gabel & Peters, 2004:588; UNESCO, 2001:21).

#### **2.3.1.1 The medical model**

The medical model, (also known by different names such as deficit model or individual view), is the traditional model of disability that focuses on the impairments of disabled people and explains the difficulties they experience in their lives in terms of those impairments (Mangal, 2007:5; McCarthy & Hurst, 2001:4; UNESCO, 2001:21). According to this model, disability is a result of genetic or biological dysfunction that limits the capacity of persons with impairments to participate

in a specific society (Avramidis & Skidmore, 2004:66; Mangal, 2007:5; Peters, 2007:99). Furthermore, the medical model tries to explain educational difficulties and poor academic achievement in terms of students' characteristics or deficits, without considering the wider environment, such as the social and political contexts in which they occur (Ballard, 1997:244; McCarthy & Hurst, 2001:4; UNESCO, 2001:21). The medical model regards disability as a personal misfortune, and sees adapting to the environment as the responsibility of persons with impairment (UNESCO, 2001:21). Since students with impairments are expected to cope with existing situations, no one, other than themselves, strives to make adjustments to the environment (Avramidis & Skidmore, 2004:66; Powney, 2002:28). This kind of traditional understanding and reaction towards individuals with impairments is still evident in the policies and practices of some higher education institutions (Peters, 2007:99; Powney, 2002:28), including AAU. Therefore, this study examined the consequences of AAU's inclusive policies and practices emanated from the medical model of disability which neglects environmental factors.

Since the medical model has often been considered as problematic and criticized for its emphasis on individuals with disability and total exclusion of social or environmental factors, it seems appropriate to shift towards the social model of disability (Rehabilitation Research Design & Disability (R2D2) Centre, 2010:1-2).

### **2.3.1.2 The social model**

In the struggle of people with impairments for the acknowledgement of their right to full participation, the social model of disability was formulated with the aim of integrating impaired people rightfully into an inclusive society (Sygall & Scheib, 2005:30; UNESCO, 2001:21). Contrary to the medical model, the social model assumes that restricting circumstances are not necessarily caused by the impairment of a person, but rather by unfair relationships in a disabling society (Swain & French, 2000:569-570) and the circumstances at higher education institutions (R2D2 Centre, 2010:2). The social model sees the whole educational system, rather than the impairment of the person, as a possible source of educational difficulties and poor academic achievement (Kinsella & Senior, 2008:658; McCarthy & Hurst, 2001:4; UNESCO, 2001:22). In other words, environmental barriers and the reactions of society towards people with impairments cause the real incapacitating circumstances in which people with impairments must function (Brown & Boardman 2010:4; Kinsella & Senior, 2008:658). From this perspective, the problem associated

with visual impairment, for instance, is seen as a product of a disabling and unresponsive learning environment and socio-political circumstances (Ballard, 1997:244; McCarthy & Hurst, 2001:4).

To limit this unfortunate situation, universities, and not individual students, should understand and remove the attitudinal and environmental barriers that students with impairments have to deal with in educational and social environments (Brown & Boardman, 2010:4; Jacklin, Robinson, O'Meara & Harris, 2007:47; UNESCO, 2001:22). The notion of shifting from the concept of individual pathology to organizational pathology is a central theme in the social model of disability and inclusive higher education (Gabel & Peters, 2004:587; Kinsella & Senior, 2008:658). To confirm this, Shepherd (2001:11) sees the social model of disability, rather than the medical model, as the best approach to empower students with VI in all aspects of higher education. Therefore, higher education institutions, including AAU, should make decisions based on the conceptual frameworks of the social model of disability when designing and adjusting the inclusive learning environment (Gabel & Peters, 2004:587; Jacklin, *et al.*, 2007:47; McCarthy & Hurst, 2001:4; Puri & Abraham, 2004:42; R2D2 Centre, 2010:2). Having this concern in mind, the researcher used the principles of the social model of disability as frame of reference to explore the challenges that students with VI face at AAU and their possible solutions.

This study also considered other theories that are compatible with the social model of disability. The theories which the researcher chose to include in this study are the critical disability theory and, on another level, Vygotsky's learning theories.

### **2.3.1.3 Critical disability theory**

The critical disability theory adopts a version of the social model which explains disability as a social construct rather than the consequence of impairments (see 2.3.1.2) (Hiranandanl, 2005:6; Hosking, 2008:7). Goodley (2013:631-632) links the emergence of critical disability studies to the analysis of disability, while the word *critical* signifies a sense of self-appraisal about the past, the present and the future life of an individual. According to social theorists a critical theory can be distinguished from traditional theories because it seeks human emancipation. In a broader sense, many critical theories have been developed to explain and transform the circumstances that enslave human beings (Bohman, 2012:1).



Unlike other critical theories, the critical disability theory refutes the medical model that describes disability as a misfortune that can be prevented and cured or rehabilitated. Instead it prefers to acknowledge normalcy rather than abnormality and strives for equality and inclusion (Hosking, 2008:17; Pothier & Devlin, 2006:2, 9-10). As far as the critical disability theory is concerned, the vital question is not whether a particular person is disabled or not, but rather what society's response to the person's circumstances will be (Pothier & Devlin, 2006:5). The critical disability theory plays an advocacy role in challenging discrimination in terms of disability, gender, ethnicity, age and class (Goodley, 2013:641). Therefore, critical disability studies pursue solutions that ensure the full inclusion and participation of people regardless of their differences. Transforming society with the objective of human emancipation is the primary purpose of all branches of critical theory, including the critical disability theory (Hosking, 2008:3). Together with the aim of the present research, this includes an action agenda for reform that may change the lives of the students with impairments, as well as the nature of inclusivity of the institutions in which they learn or live (Creswell, 2003:9).

The critical disability theory not only asks the traditional question: What is to be done? But also asks who is to do it? Ultimately, the question of responsibility and accountability can be resolved through the joint efforts of both persons with and without impairments (Pothier & Devlin, 2006:13). In particular, persons with impairments should be engaged in developing their own empowering strategies at the level of the self, the family, the school, and work in local, national and international politics, as well as in socio-cultural areas (Pinto, 2000:11). For this reason the researcher adopted the critical disability theory together with the social model of disability as the broad theoretical foundation of this study. The study, therefore, highlighted the transformational actions that emancipate students with VI from discriminatory social and environmental circumstances caused by their impairment.

The researcher also applied the following theories of learning to this study:

#### **2.3.1.4 Theories of learning**

Inclusive education has two components, namely philosophical and practical (see 2.2; Peters, 2007:99). Recently attention has been given to practical aspects like the inclusion of learners with impairments, as well as the broad social and political contexts within which inclusive policies and practices are developed and implemented (Ballard, 1997:243). This study focuses on Vygotsky's

social theories, Since they conceptualize disability as a social construct and emphasize the importance of transforming social and political contexts. Although the social model of disability and critical disability theory share this outlook, Vygotsky's social theories are important because they have been substantiated by empirical data accumulated for more than half a century. As a result, the theories have been accepted by thousands of professionals throughout the world and applied in various contexts to analyse the challenges to inclusion critically, and to identify intervention strategies that could remove those challenges (Kozulin, Gindis, Ageyev & Miller, 2003:217). With this in mind, the researcher adopted both the socio-cultural and mediated learning theories of Vygotsky in order to conceptualize the socio-cultural challenges of students with VI and to determine possible forms of intervention.

### **Socio-cultural theory**

Vygotsky is one of the most prominent social theorists who were influenced by Hegel (Langford, 2005:124). He formulated the socio-cultural theory that claims the social, cultural and historical forces all play a part in human development and initiate the creation of appropriate methodologies and intervention (Daniels, 2001:7). For example, Vygotsky argues that thinking and development takes place in specific social, cultural and historical circumstances (Daniels, 2001:39) and that it provides a rich source for understanding and developing a process of social transformation such as schooling (Daniels, 2001:9). According to Vygotsky, the fundamental prerequisite of pedagogies demands individualization that suggests responsiveness to diversity rather than the burden of 'sameness' in learning and development (Daniels, 2001:99). The socio-cultural theory of teaching and learning describes the creation of a learning environment as something that can be conceived as a shared problem space in which students are invited to participate in a process of negotiation and co-construction of knowledge (Kozulin *et al.*, 2003:246). The other basic philosophical principle of the socio-cultural theory is that learning takes place when the learner interacts with the socio-cultural environment (Daniels, 2001:7). In this regard, Tirussew (2005:118) argues that one of the reasons to shift towards inclusive education in Ethiopia is to achieve psychological, social, as well as educational interaction between students with impairments and their peers. According to Sacks, Kekelis and Gaylord (1992:32), a variety of socio-cultural factors, such as activities, partners, settings and materials affect the frequency and quality of interaction between the learner and peers. On the other hand, the power of peer interaction strongly affects learners' long-time socialization (Sacks, Kekelis & Gaylord, 1992:9). By understanding the effects of these contextual factors on social exchanges, educators can

create environments that foster positive interaction among students (Sacks, Kekelis & Gaylord, 1992:21). At AAU these contextual factors should be taken into account to prompt social interaction. Therefore, this study identified the major challenges facing students with VI when learning and interacting with peers within the socio-cultural contexts of AAU. It also recognized the intervention strategies that foster the inclusive learning and social interaction of students with VI within the socio-cultural arenas of AAU.

### **Mediated learning theory**

Vygotsky's mediated learning theory attempts to provide an account of learning and development as a mediated process. Similar to the socio-cultural theory, the mediational model entails the mutual interaction of individual and supra-individual factors such as social, cultural and historical factors (Daniels, 2001:1; Kozulin *et al.*, 2003:17, 23). The social factors that should be considered in the case of this study include the social disadvantage that learners with VI may experience in terms of not being able to engage freely in social activities, as well as their 'differentness' that may contribute to their being socially unacceptable in a certain sense. The cultural aspects could include idiosyncratic ways in which learners with VI need to organize their surroundings in an attempt to create an organized environment in which they can function, or even facial expressions they are not aware of. The historic factors might include the discrimination that has traditionally been practised against the learners with VI by seeing people and which is difficult to eradicate. These factors lie at the heart of many attempts to understand the possibilities for intervention in human learning and development (Daniels, 2001:1; Kozulin *et al.*, 2003:17, 23).

Russian students of Vygotsky's theory researched two types of mediation, namely mediation through another human being and mediation in the form of organized learning activities (Kozulin *et al.*, 2003:17). Teachers (as human mediators) are responsible for establishing an interactive instructional situation in the classroom where learners are active participants and they use their knowledge to guide learning (Daniels, 2001:i). Vygotsky describes tools as material or psychological devices as well as products of human, social, cultural, or historical activities for mastering mental processes (Daniels, 2001:17). The tools in the case of this study include the electronic devices available to support learners with VI. Human mediation that does not involve tools does not help the learner to master more complex forms of reasoning and problem-solving. Therefore, the combination of mediating learning and tools plays a crucial role in solving educational problems (Kozulin *et al.*, 2003:211). This is especially true of students with VI in AAU.

Therefore, the researcher applied the principles of mediated learning theory, including mediation through human beings and tools, in order to realize active learning and mutual interaction between students with VI and social, cultural and historical factors at AAU.

### **Application of Vygotsky's theories to disability and education**

Vygotsky believes that learning institutions should consider the social aspects of the curriculum (Langford, 2005:124). Furthermore, he perceives impairment (e.g., blindness) as a socio-cultural and developmental phenomenon (Kozulin *et al.*, 2003:202). Vygotsky's insight is that the principal problem with an impairment is not the sensory impairment itself, but its social implications (Kozulin *et al.*, 2003:202). Thus social interaction with people with impairments should not create problems of their own. If social barriers to participation exist, the solution could be to seek alternative forms of participation or specific interventions such as supplementary forms of communication like Braille. (Daniels, 2001:46), or making information available in other formats. In this way, communication performs a mediational function between the community and the individual with impairment (Daniels, 2001:51). In modern environments communication should be more verbal and more learner-centred to support students with VI (Kozulin *et al.*, 2003:28). Therefore, the inclusion of students with VI should focus on environmental factors that either contribute or hinder the development of their social interaction and inclusion in a community such as a university (Sacks, Kekelis & Gaylord, 1992:34). It is evident that the social development and independence of students with VI depends on the support and facilitation of peers, teachers and parents (Sacks, Kekelis & Gaylord, 1992:11). Furthermore, the psychological value of using tools like Braille is significant and of particular importance for teaching and interaction. Consequently, it is important for institutions to continue developing such tools in order to accommodate the needs of students with VI (Kozulin *et al.*, 2003:209). Thus it can be concluded that socio-cultural interaction and mediated learning creates a new perspective on the socialization, acculturation and development of learners with VI (Kozulin *et al.*, 2003:217).

In addition to the above theories and models of disability, the researcher also applied the mutual adjustment model in this study, as it emphasizes the active participation of learners with VI on decisions concerning the provision of inclusivity at AAU. In the next section the main features of the mutual adjustment model will be discussed.

### **2.3.1.5 The mutual adjustment model**

The mutual adjustment model is linked to the social model of disability since it accepts disabling learning and social environments as the possible causes of the problems that students with VI face in inclusive higher education (Shepherd, 2001:11). Since there is no general approach to dealing with the unique needs of all students, a flexible approach should be applied to meet the academic and social needs of students with VI in inclusive settings. To this end, the mutual adjustment model was developed by Shepherd in the United Kingdom with the purpose of meeting the real needs of students with VI with their permission and approval (Shepherd, 2001:11). The underlying principle of this approach is that students with VI can negotiate with the staff members and sighted students about the accommodations and adjustments to be made by the institution in order to ensure the most effective inclusive learning environment (Shepherd, 2001:12). Apart from this, the mutual adjustment approach is vital for students with VI, because it enables them to address their resource limitations and safety issues (Shepherd, 2001:12).

According to Shepherd (2001:12-13), the mutual adjustment model incorporates several ways to accommodate the needs of students with VI in higher education institutions. Information-sharing is one of the ways in which this approach is translated into action. Students could be asked to declare the nature and level of their visual impairment and staff could make available a detailed list of the resources known to address the problems of students with VI. Another method could be to allocate additional time. For example, sufficient or additional time could be given to students with VI to attend classes, to read prepared materials, and to do assignments and examinations. In addition, the mutual adjustment model includes the design of alternative study activities and materials. This component can be met by allowing students with VI to use special equipment and assistive technologies. Another component of the model is communication, and communicating regularly with students with VI is seen as essential. Finally, the mutual adjustment model requires the allocation of money to buy specific equipment or to finance special services. With this in mind, the researcher adopted the mutual adjustment model as a guiding approach for the identification of accommodations or adjustments that are made available to students with VI in the university under study. This study, therefore, focused on the importance of participating or consulting students with VI on adjusting and accessing the learning environment and resources to accommodate their needs in AAU.

Recently Ethiopian institutions of higher education have been advised to examine their inclusive policies and practices in terms of the conceptual and theoretical frameworks discussed above. It was found necessary to examine the implementation of inclusive higher education in the light of legal frameworks set out both internationally and locally. Therefore, the next section will deal with legal frameworks that provide insights into inclusive practices at all levels of education in Ethiopia.

## **2.4 LEGAL FRAMEWORKS FOR INCLUSIVE EDUCATION**

With the aim of meeting the rights and entitlements of people with impairments and others, the United Nations member countries, including Ethiopia, have developed several international and national laws or conventions. The needs and rights of individuals with impairments are now enshrined in a range of international and local legislative and regulatory frameworks (Shepherd, 2001:17). The international conventions, in particular provide legal frameworks, as well as a critical lens to understand and interpret the practical actions of UN member countries when dealing with disability-related issues (Peters, 2007:100).

### **2.4.1 International laws**

The international conventions formulated during the 1940s (including the Universal Declaration of Human Rights of 1948) promoted a welfare perspective that focused on disability prevention and rehabilitation (Peters, 2007:101). However, the conventions formulated during the 1960s and 1970s showed a definite shift toward a rights-based approach, while the conventions and declarations implemented during the 1980s, 1990s and 2000s focused primarily on issues such as equal opportunities, access, participation, advocacy, integration, inclusion, and accommodation (Peters, 2007:101). It was the legislative and regulatory framework of the 1990s that demonstrated considerable advances in legal support for students with VI in terms of their educational needs (Shepherd, 2001:17). Of those frameworks, the 1993 United Nations Standard Rules on the Equalization of Opportunities for Persons with Disabilities and the 1994 Salamanca Statement have been used as basic sources to formulate local policies and legislation in Ethiopia and other UN member countries for the protection of the rights of people with impairments and to ensure their educational and social inclusion at all levels of education.

#### **2.4.1.1 United Nations Standard Rules on the Equalization of Opportunities for People with Disabilities (1993)**

The 1993 United Nations Standard Rules on the Equalization of Opportunities for People with Disabilities is one of the international disability-specific legal frameworks applicable to all people with impairments (United Nations, 1994:8; United Nations, 2007:3). The document contributes significantly to the worldwide effort to mobilize resources (United Nations, 1994:10).

According to UN Standard Rules, the term *equalization of opportunities* is defined as the process through which the various systems of society and the environment, such as services, activities, information, as well as documentation, are made available, particularly to people with impairments (United Nations, 1994:10). The essence of this operational definition may agree with the principles of a social model of disability and inclusive approach. In this regard, Peters (2007:104) maintains 'the United Nations Standard Rules represent a definite move towards a social model of inclusive education, especially with respect to Rule 6 on the provision of equal education at all levels. The purpose of this rule is to ensure that people with impairments are allowed to exercise the same rights and obligations as others'. This rule also serves as an instrument for policy-making and actions to remove the barriers that prevent people with impairments from exercising their rights, as well as having full participation in the activities of their societies and organizations (United Nations, 1994:7). As part of the rules of equal opportunities and participation, provision should be made to assist people with impairments with issues such as awareness-raising, support services, access to the physical environment, information, equal tertiary educational opportunities, employment, social security and income maintenance, culture, recreation, sports, and religion (United Nations, 1994:10-25). Attention is paid to these issues in the present study in the examination of the inclusion of students with VI at AAU.

#### **2.4.1.2 The World Convention on Special Needs Education, Salamanca (1994)**

The other disability-specific international legal instrument mentioned above is the 1994 Salamanca Statement on Principles, Policy and Practice in Special Needs Education and a Framework for Action. It was adopted by 92 governments and 25 international organizations, and has uniquely set the policy agenda for inclusive education on a global basis (Peters, 2007:104; UNESCO, 1994:iii). It also draws on the national experience of the participating countries,

including Ethiopia, as well as on resolutions, recommendations and publications of the United Nations system (UNESCO, 1994:5).

The major impetus for inclusive education came from the 1994 world conference on Special Needs Education (SNE) in Salamanca (Eleweke & Rodda, 2002:114; Peters, 2007:101; UNESCO, 2003:4; United Nations, 2007:3). Thus, the concept of inclusive education was introduced worldwide through the Salamanca Framework (Nguyen, 2010:349). The Salamanca Framework is based on the principle of inclusion, in which institutions are meant to include everybody, celebrate differences, support learning, and respond to individual needs (UNESCO, 1994:iii). The guiding philosophy that informs this framework is that schools should accommodate all learners, regardless of their physical, intellectual, social, emotional, linguistic, or other conditions (UNESCO, 1994:6). In particular the Salamanca Convention illustrates the importance of making quality inclusive education accessible to all students with impairments (Peters, 2007:104), as well as reducing the drop-out rate and repetitions that are common in many education systems (UNESCO, 1994:7).

In general the Salamanca Framework represents a worldwide consensus on future directions and guidelines applicable at national, regional, and international level. Its basic requirements focus on policy and organization, school factors, recruitment, as well as the training of educational personnel, external support services, priority areas, and resource requirements for the provision of inclusive education (UNESCO, 1994:7). In the context of this framework, inclusion requires the articulation of a clear and forceful policy and legislation, an extensive programme of orientation and staff training, the provision of the necessary support services, and adequate resources. In addition, changes to the curriculum, buildings, pedagogy, assessment and staffing are necessary to cater successfully for a wide range of learners, including students with VI (UNESCO, 1994:21). It is encouraging to note that the requirements of the above international legal frameworks have been used as references to develop particular national/local laws in Ethiopia.

#### **2.4.2 National laws**

As members of the United Nations (UN) a number of developing countries have participated in formulating and ratifying numerous international conventions and declarations on disability-related issues (Morley, 2012:4). The introduction of the UN conventions on the rights of people with impairments offers new opportunities particularly to African countries to reconsider their



domestic legal laws relating to disability rights (Reenen & Combrinck, 2012:1). For example, Ethiopia is one of the developing countries that endorsed the 1993 United Nations Standard Rules, the 1994 Salamanca Convention and the UN Conventions on the Rights of People with Disabilities (CRPD) (Reenen & Combrinck, 2012:12). As a result, the Government of Ethiopia has adopted a number of international legal frameworks pertaining to the rights of people with impairments in its national constitution, as well as other legal frameworks such as the Education Policy and Special Needs Education Programme Strategy.

#### **2.4.2.1 The Ethiopian Constitution**

According to Reenen and Combrinck (2012:8), the Constitution of the Federal Democratic Republic of Ethiopia can be seen as one of the new generation of African constitutions that clearly agrees with the role that international human rights law should play at domestic level. The Ethiopian constitution was created in 1995 to provide legal frameworks for ensuring the overall rights and entitlements of its entire people. Article 9.4 provides the international agreements ratified by Ethiopia as an integral part of the country's law (Federal Democratic Republic of Ethiopia, 1995:79). Furthermore, Article 13: 2 sets out the fundamental rights and freedoms to be interpreted in a manner that conforms with the principles of the Universal Declaration of Human Rights and other international instruments adopted by Ethiopia (Federal Democratic Republic of Ethiopia, 1995:81; Reenen & Combrinck, 2012:8). In particular, in the newly-drafted constitution Ethiopia has included general rights for individuals with disabilities, and explicitly incorporated disability within a broad non-discrimination guarantee (Sygall & Scheib, 2005:30).

However, passing a law is one thing but enforcing it is quite another (Eleweke & Rodda, 2000:5). For example, the Ethiopian Constitution does not include specific legislation that encourages inclusive education; as a result it has to be supported by other mandatory laws and policies. To this effect, the federal policy documents, such as the new Education Policy and Special Needs Education Program Strategies have incorporated general as well as specific legislative statements regarding the education and inclusion of children and young people with impairments in schools and universities.

#### **2.4.2.2 The New Education and Training Policy (NETP)**

This policy was formulated in 1994 by the Government of Ethiopia to resolve longstanding

problems associated with the education system in general, and the provision of special education in particular (MoE, 2002:8). The legislative frameworks of the Ethiopian NETP can be explained in terms of objectives and overall strategies. For example, the policy addresses the entitlement of students with impairments within a general objective of education that says: 'to enable both handicapped and gifted learners in accordance with their potential and needs' (Transitional Government of Ethiopia, 1994:9). As a result, all Ethiopian educational institutions are responsible for meeting this objective. In addition, the overall strategic section of the policy mentions the following implementation strategies regarding the education of people with impairments:

- Special education and training will be provided for people with special needs.
  - Teacher training for special education will be provided in regular teacher training programmes.
  - Special attention will be given to the preparation and utilization of support systems for special education, and
  - Scholarships will be given to deserving/outstanding students.
- (Transitional Government of Ethiopia, 1994:17-31).

This policy was developed to establish a particular section within the overall structure of educational organizations that included the Ministry of Education, Regional Education Bureaus, Zonal Education Departments and District Education Offices in order to coordinate and monitor the education of people with impairments (Transitional Government of Ethiopia, 1994:17). However, the 1994 education policy lacks clarity in terms of the provision of support for students with impairments and does not encourage an inclusive approach for their education. To address this deficit, the Ethiopian Education Ministry has since designed the Special Needs Education Programme Strategy mandating inclusive education and setting out a policy agenda with clear priorities aimed at promoting the inclusion of people with impairments.

#### **2.4.2.3 Special Needs Education Programme Strategy**

The Special Needs Education Programme Strategy (SNEPS) was developed in 2006 by the Ethiopian Ministry of Education with the aim of identifying and removing the prevailing barriers to the implementation of inclusive education (MoE, 2006:5). This federal-level strategy shows the direction for providing access to inclusive education to all learners by identifying and removing existing barriers at all levels of schooling and higher education (MoE, 2006:1, 2). As a result,

higher education institutions are expected to establish resource centres that support students with VI and their lecturers, and that provide students with Braille literature, reading and writing tools, and training on ICT applications (MoE, 2006:30).

The SNEPS also helped to produce a Higher Education Proclamation in 2009 that provides particular frameworks and standards pertaining to physically challenged students in higher education institutions (Federal Democratic Republic of Ethiopia House of Representatives, 2009:4976). For example, Article 40 of the higher education proclamation states:

1. Institutions shall make, to the extent possible, their facilities and programmes amenable to use with relative ease by physically challenged students.
2. Institutions shall, to the extent that situations and resources permit, relocate classes, develop alternative testing procedures, and provide different educational auxiliary aids in the interest of students with physical challenges.
3. Building designs, physical landscapes at campuses, computers and other infrastructures of institutions shall take into account the interests of physically challenged students.
4. Institutions shall ensure that students with physical challenges get to the extent necessary and feasible academic assistance, including tutorial sessions, exam time extensions and deadline extensions. (Federal Democratic Republic of Ethiopia House of Representatives, 2009:5005).

Even though these legislative standards have indirect implications for the inclusion of students with VI, higher education institutions are obliged to issue clear regulations and directives that affect the provision of these support systems to learners with VI.

In conclusion, both the theoretical principles and legal frameworks discussed above can contribute significantly to the improvement of the inclusive policies and practices of all higher education institutions. The theoretical and legal frameworks not only confirm the necessity of complying with all of the policies discussed above, but have also been used as the foundation of several practical strategies that have been developed to ensure the full inclusion of students with VI in higher education institutions in Ethiopia, including AAU.

The teaching of students with VI in Higher Education is the next important topic to be considered in this review. The next section focuses on the unique needs of students with VI in higher education institutions and the strategies that should be adopted by universities in order to ensure their rights and to offer them equal opportunities.

## **2.5 THE RIGHTS OF STUDENTS WITH VISUAL IMPAIRMENT IN HIGHER EDUCATION**

As discussed above, a variety of international and national inclusive frameworks across UN member countries express the need for students with Visual Impairment (VI) as part of a general disabled group, to have the right to equal and quality higher education. The definition of disability provided in the United Nations Standard Rules of 1993, includes people with sensory impairments. For this reason it can be accepted that all the rules specified in this convention can be applied to students with VI (United Nations, 1994:8). Therefore, all higher education institutions are expected to ensure the rights and entitlements of students with VI as recommended in international and local conventions and standards. For this reason the current study takes into account the theoretical and legal frameworks discussed above to outline the practical strategies for addressing the unique circumstances of students with VI in higher education.

### **2.5.1 Definition of visual impairment**

In the context of this study, the term *visual impairment* refers to total blindness and/or severe difficulty to see things and events in the immediate environment. This definition does not include partial blindness or low vision. Thus, the term *students with visual impairment* refers to those who are totally blind and cannot see what is happening in the environment they are in, even with the help of specialized devices. Students with VI are those who use their non-visual senses rather than their visual senses in order to learn (Panda, 2008:117-118). Having the above operational definition in mind, the term *students with VI* has been used throughout this study to indicate blind or non-visual students.

### **2.5.2 Strategies for ensuring the rights and equal opportunities of students with visual impairment in higher education**

The international and national laws which have been discussed above (see 2.4) address the rights and entitlements of disabled groups, including the students with VI. It is interesting to note that

there are also some sections of these laws that pay specific attention to students with VI. If there is a need to address inclusion issues, it is reasonable to suggest that students with VI should be able to gain equal access to the learning process along with their sighted peers (Economic Commission for Africa, 2009:17; UNESCO, 2002:4). This, in turn, necessitates the use of different strategies and adjustments (Powell, 2003:44; Salisbury, 2007:15) because by making reasonable adjustments institutions could prevent students with VI from being placed at a substantial disadvantage. Therefore higher education institutions should consider the plight of students with VI very carefully when they plan courses and other activities (Karten, 2010:63). In practical terms, reasonable adjustments can be made to admission and placement policies, curricular materials, teaching and learning arrangements, the establishment of assessment standards, as well as the assurance of equal opportunities to access resources both in and out of the classroom (Shepherd, 2001:19; UNESCO, 2010:1).

In legal and legislative terms, the inclusion of students with VI in higher education necessitates clear (McCarthy & Hurst, 2001:15) and enabling policies in order to ensure equal opportunities and full participation in all aspects of university life (Shepherd, 2001:17; UNESCO, 2010:1). In this regard, Shepherd (2001:18) argues that there should be relevant and clear policy guidelines at both institutional and departmental level to ensure the setting and/or amendment of academic or other programme requirements during approval and validation processes.

It has also been noted above that learners with impairments should be eligible to have access to any field of study they choose as part of the equalization of opportunities in all settings (Powell, 2003:5; United Nations, 1994:17). In addition, empirical evidence from a number of sources demonstrates that the impairment of a learner with VI does not have a significantly negative effect on the level of attainment in several subject areas in higher education (Powell, 2003:41). According to this author, specific subjects of study - such as computer sciences, social studies and humanities – tend to attract students with VI, while other subjects such as architecture, education and medical sciences do not. Therefore, higher education institutions should provide students with VI with relevant information and guidance on admission and course selection (Powell, 2003:41) in order to allow them to make conscious and informed choices of their fields of study (Fuller, Bradley & Healey, 2004:465). For instance, programme specifications should give sufficient information to enable students with VI and staff members to make informed decisions when they consider their abilities to complete programmes (Shepherd, 2001:18).

Once students with VI have been accepted to a programme of study, the higher education institution may need to adapt its curriculum in order to retain them (Powney, 2002:11). Differentiation in the curriculum for students with VI should fit comfortably within the learning and teaching programme, and should widen the participation agenda (Powney, 2002:23). In order to do this successfully, higher education institutions should consider the real needs of students with VI when they design or modify the curriculum (Amadio, 2009:301; Ashman, 2010:70; Powell, 2003:27). One way of achieving this goal would be for an academic staff member to invite students with VI to the first lecture after which they could have a confidential discussion on the students' specific learning needs (University of Adelaide, Australia, 1998:2) and on the provision of curricular materials.

Since inclusive learning requires collaboration between staff and students, the relationship between students with VI and teaching staff is even more critical at higher education institutions (Powell, 2003:44). Therefore, the staff should employ appropriate strategies when interacting with students with VI in the classroom (Shepherd, 2001:14; University of Adelaide, Australia, 1998:2). Broad guidelines that indicate how sighted people should interact with students with VI are:

Speak directly to the students with VI rather than through a third party;

- When entering a room or approaching a student with VI, introduce yourself by name and use their names in conversation;
- Ask for the consent of a student with VI before attempting to guide him/her through a building or across a road;
- Do not speak in other than a normal speaking voice to students with VI;
- Indicate verbally whenever you are entering or leaving classes. Furthermore, keep doors fully closed or opened, clear corridors, and keep objects in their usual place unless you inform students that they have been moved;
- Ask students about any adaptive technology they may be using to access information or prepare assignments;
- Negotiate issues concerning teaching and assessment on the basis of individual needs to ensure that the curriculum is inclusive (Shepherd 2001:14; University of Adelaide, Australia, 1998:2).

Barriers that students with VI encounter can be minimized through changes in teaching and learning strategies (Karten, 2010:63; Meijer, 2001:10). When the content or tasks are delivered visually, the following teaching and learning strategies are likely to assist students with VI:

- Provide materials in the student's preferred format, such as in Braille or disk before a lecture; Encourage students with VI to use substitutes for paper and pens, such as tape recorders or laptops, during lectures;
- Communicate information verbally or verbalize what is written on the blackboard and slides;
- Talk through calculations and describe charts or graphs being used;
- Allow equal access to visual materials like videos and discuss alternative ways of acquiring the necessary information (e.g., providing a transcript or lending the video to the student in advance);
- Provide an individual orientation to laboratory equipment or computers;
- Provide advance notice of academic activities which will take place off-campus, such as industry visits, interviews or field work (Powell, 2003:42-43; University of Adelaide, Australia, 1998:2);
- Provide advance Allow students with VI additional time to complete educational tasks. (Clayton, Poe, Piti, & Goodman, 2010:19; Meijer, 2001:10; Salisbury, 2008:21).

Traditional assessment procedures can put students with VI at a disadvantage. However, making changes through the use of alternative forms of assessment, additional arrangements and adaptations to procedures can reduce some of the barriers that students with VI encounter in higher education (Powell, 2003:5; Wray, 2002:8). For example, higher education institutions can apply the following strategies to make adjustments and adaptations to assessment tasks:

- Allow additional time to students with VI to complete assignments and examinations. For example, some students with VI may require double the amount of time allocated to an examination;
- Set examination papers in Braille and present diagrams and maps in a tactile format;
- Allow students to undertake examinations using a personal computer with a voice synthesizer or have a reader to read the questions, or examine the student orally with the examiner asking questions or allow the student to listen to audio-taped questions;

- Provide extra space or a separate examination venue if the noise of special equipment is disturbing to other students;
- Involve self-assessment as a component of the course assessment;
- Discuss and collaborate with staff who have had prior experience in teaching and assessing students with VI;
- Review the assessment alternatives regularly to ensure that both students' needs and stated course objectives are attained (University of Adelaide, Australia, 1998:2).

In addition to these strategies, formative evaluation should be incorporated into the assessment system so that the progress of each learner can be followed and the difficulties students with VI face can be identified, thereby assisting them to overcome their problems (Gillies, 2014:1; UNESCO, 1994:22).

Some of the instructional and assessment-related challenges that students with VI and their lecturers experience can be addressed through the use of assistive materials and technologies (D'Andrea, 2012:2). It is good practice for higher education institutions to have a variety of assistive materials and computers with appropriate software in stock, since students with VI need them to access learning and information (Powell, 2003:43). For example, some higher education curriculum materials might be made available as computer texts for easy delivery to students with VI via disks or email. In particular, communication with students with VI on campus by email can often be the fastest and most convenient solution for both staff members and students (Powell, 2003:43). Students with VI can access e-texts by using a screen-reader, in which they use a screen with speech output (Powell, 2003:43). On the other hand, visual curricular materials such as maps, diagrams, graphs or photographs can sometimes be described to students with VI verbally with the help of an audio recording. While recording lectures requires several hours of transcription, students can use Dictaphones, silent Braille and laptop devices in class. In addition, when students with VI require tactile texts and diagrams, these can be created manually or else thermoformed, Brailled, embossed or designed on computers and printed out in tactile form (Powell, 2003:44).

As learning materials and information can be accessible to students with VI in many different ways, such as disk, tape, Braille or embosser, e-text and web sites, students can receive information, guidance and advice on their choice of support medium (Powell, 2003:46; Shepherd, 2001:21). Powell (2003: 45) suggests that the adapted materials should be located in regular



libraries and study centres rather than in separate locations, because separate locations might marginalize the study and social interaction of students with VI with sighted peers. In addition, institutions could have a pool of appropriate equipment for loan by students with VI (e.g., programmable calculators with speech synthesizers or Dictaphones). Another alternative could be for students with VI to acquire funding through an allowance scheme to buy equipment and pay for certain consumables (Shepherd, 2001:22).

Currently, higher education institutions require academic and technical staff members to make arrangements when planning and employing teaching and learning strategies which make the delivery of programs as inclusive as possible (Shepherd, 2001:18). It is important for academics to appreciate that the responsibility is a shared one, and academic staff should collaborate with colleagues who have expertise in disability and inclusion from their own as well as other institutions (Powell, 2003:41). In this way creativity and innovation initiated by staff members can be very important change agents for the inclusion of students with VI in higher education institutions (Powell, 2003:41). The issue of expertise is related to initial and continuing teacher education, leadership and management skills, as well as the availability of support staff with specific training in relation to visual impairment and inclusion (Kinsella & Senior, 2008:655).

When teaching and support staff meet students with VI for the first time, they must know how to treat them on the basis of good practice guidelines (Powell, 2003:42). In addition, it is critical for staff members who have limited prior experience in working with students with VI to be aware that individuals are different. For example, one student with VI might study verbally, while another might use tactile forms (Powell, 2003:42). Therefore, higher education institutions need to invest time on relevant staff development in order to respond effectively to the diverse needs of students with VI (Shepherd, 2001:15). As far as staff development is concerned, Powell (2003:46) acknowledges the clear need for staff training in disability equality. Thus, all the staff members should be trained to be aware of the needs of students with VI (Shepherd, 2001:15). According to this author, initial awareness training may include a general overview of visual impairment, as well as a review of available resources and approaches to learners with impairments. For maximum effect, raising the awareness of staff members and students should be conducted concurrently. Sighted students need to invest time in relevant training in order to respond effectively to the needs of students with VI. Both academic departments as well as the institutions as a whole can play a significant role in supporting such training activities (Shepherd, 2001:22).

Moreover, it is crucial to focus on the role of teacher training programs in higher education institutions as it makes it possible to produce teachers who know about and are willing to address the diverse needs of students (Opertti, Brady & Duncombe, 2009:209). Similarly, administrators and paraprofessionals, including transcribers, readers, tutors and counsellors should be trained on how to assist students with VI to develop skills for independence (Powney, 2002:23). Apart from staff development programs, the use of collaboration among professionals, policy makers, and organizations of students with impairments is critical to meet the unique educational needs of students with VI collectively (Mji *et al.*, 2009:1; Opertti, Brady & Duncombe, 2009:212).

## **2.6 CONCLUSION**

In this chapter, several key concepts of inclusive education and visual impairment were discussed based on existing literature. In the first place, an operational definition of inclusive education was presented. Discourses on disability issues together with the associated theoretical frameworks and models were then discussed in order to conceptualize barriers to the inclusion of students with VI in higher education institutions, and ways of intervening in order to support these students. International and local legal frameworks that guide the development and effective implementation of inclusive education for students with VI were also discussed. Due attention was given to the United Nations Standard Rules, Salamanca Statements, Ethiopian Education Policy and Special Needs Education Programme strategy. The standards of these legal frameworks were discussed in order to identify their contributions to the development and implementation of inclusive education in the contexts of higher education institutions, including AAU. In addition, in this chapter basic strategies that have been developed based on these theoretical and legal frameworks to ensure the rights and entitlements of students with VI in higher education institutions, including AAU, were identified.

Specific facts that have bearing on this research are briefly summarized as follows:

The traditional understanding and reactions of staff members associated with the notions of the medical model are still evident in attitudes toward individuals with impairments in the policies and practices of some higher education institutions such as AAU. However, universities should endeavour to understand the attitudinal and physical barriers that students with impairments have to deal with in educational and social environments. Efforts should be made to remove these barriers and to focus on the value of each individual rather than their impairments. To this effect,

the university under study, as well as other tertiary education institutions, should base their decisions on the conceptual frameworks of the social model of disability when they design and adjust inclusive learning environments for students with VI. In order to achieve optimal learning, students with VI should learn in a social context. They should have the opportunity to internalize content by arguing and negotiating outcomes with their seeing peers. Vygotsky's mediated learning theory that encourages mediation, through another human being or organized learning activities are important in this regard (see 2.3.1.4). In addition to this, students with VI should be in the position to negotiate with staff members and sighted students about the accommodations/adjustments to be made by the institutions in order to create an effective inclusive learning environment (see 2.3.1.5). This research focuses on the roles of lecturers and learning activities as mediators of learning for students with VI.

Apart from theoretical principles, international and national legal frameworks were discussed to illustrate that the inclusion of students with VI in higher education institutions is an important issue that needs to be addressed. For example, the United Nations Standard Rules represents a definite move towards a social model of inclusive education, especially with regard to Rule 6 on the provision of equal education at all levels (see 2.4.1.1). This rule aims to enable people with impairments to exercise the same rights and obligations as others. It also serves as an instrument on which to base policies and actions to remove the barriers that prevent people with impairments from exercising their rights and enjoying equal opportunities in the activities of their societies and organizations. According to the United Nations Standard Rules, the term *equalization of opportunities* is defined as the process through which services, activities and information are made available, particularly to people with impairments. Similarly, the Salamanca Framework was developed based on the principle of inclusion, in which institutions accommodate all learners, regardless of their physical, intellectual, social, emotional, linguistic, or other conditions (see 2.4.1.2).

As Ethiopia is one of the developing countries that endorsed the United Nations Standard Rules and the Salamanca Convention, it adopted a number of international legal frameworks pertaining to the rights of people with impairments in its National Constitution, education policy and Special Needs Education Programme Strategy (SNEPS) (see 2.4.2). In particular, the education policy provides overall implementation strategies for the education of people with impairments. For example, the strategies allow people with impairments to have access to special education and training with the help of well-organized support systems. The SNEPS, on the other hand,

demands that higher education institutions establish resource centres that provide students with VI and their lecturers with supportive materials and training in their application. In the same way, the Higher Education Proclamation focuses on the accessibility in higher education institutions of academic programs, landscapes, buildings and their facilities, assistive technologies and other infrastructure to students with physical impairment.

In accordance with both international and national legal frameworks, students with VI at AAU should be able to gain equal access to the learning process along with their sighted peers. This will necessitate the availability of relevant and clear policy guidelines at both institutional and departmental level that ensure the setting and amendment of academic or other programme requirements when students with VI are admitted (see 2.5.2). In addition to accepting students with VI into programs of study, the higher education institution should adapt its curriculum in consultation with students with VI in order to address their specific learning needs. Accordingly, the staff should employ appropriate strategies when interacting with students with VI in the classroom and remove barriers by adapting teaching-learning processes and formative and summative assessments. Higher education institutions should provide students with VI with adapted educational materials using preferred assistive technologies so that instructional and assessment processes can be facilitated. To this effect, academic staff members should work with colleagues who have expertise in disability and inclusion from their own as well as from other institutions. Moreover, it is crucial to focus on capacity building programs in higher education institutions as this would make it possible for knowledgeable and willing lecturers to address the diverse needs of students with VI. Similarly, administrators and paraprofessionals, including transcribers, readers, tutors and counsellors should be trained in ways to assist students with VI at AAU.

The next chapter will focus on the review of the previous studies and best practice regarding the challenges that students with VI face and the measures to be taken to overcome these challenges.

## **CHAPTER 3**

### **STUDENTS WITH VISUAL IMPAIRMENT IN HIGHER EDUCATION**

#### **3.1 INTRODUCTION**

The theoretical principles and legal frameworks discussed above contribute significantly to the description of the basic requirements for improving the inclusive policies and practices of the university under study and other higher education institutions. In this chapter the theoretical framework presented in Chapter 2 is used as the foundation of a discussion on the provision of equal opportunities for and the protection of the rights of students with Visual Impairment (VI) that are enshrined in international and local legal documents. The university under study and other higher education institutions should strive to ensure that the basic requirements are provided.

#### **3.2 HIGHER EDUCATION REQUIREMENTS OF STUDENTS WITH VISUAL IMPAIRMENT**

As already mentioned, students with VI, as a grouping of persons with disabilities, have the right to access equitable and quality higher education through inclusive approaches. The definition of disability provided in the United Nations Standard Rules of 1993, includes people with sensory impairment (United Nations, 1994:8) so that all the rules of this international convention can be applied to the inclusion of students with VI in higher education institutions. In addition, higher education institutions are currently required to adopt the rules and regulations set out both internationally and locally (see 2.4.1 & 2.4.2) to meet the needs of students with VI. The paradigms discussed above (see 2.3) can also be used as theoretical frameworks to determine the requirements and responses of higher education institutions towards the inclusion of students with VI. The most important thing here is that higher education institutions should determine the fundamental requirements that will contribute towards the perceptions people have of the rights and entitlements of students with VI (Powell, 2003:10). To this effect, several writers describe diverse requirements that need to be achieved by higher education institutions when they deal with the inclusion of students with VI. To this end, the researcher has outlined the institutional, academic and social requirements presented in literature, with the purpose of applying them to the particular context of AAU.

### **3.2.1 Institutional requirements**

It has been recognised that the United Nations Standard Rules of 1993, the Salamanca Framework of 1994, and various Ethiopian policy documents provide institutional directions that should be applied and the requirements that should be met at all levels of schooling, including higher education. More recently, disability-related theoretical and legal frameworks have shifted the focus from individual impairment or personal tragedy to institutional arrangements when institutions work towards the inclusion of learners with impairments (Jacklin *et al.*, 2007:9). For example, applying the social model of disability rather than the medical model is becoming an accepted response to the socio-economic exclusion of impaired people in inclusive settings (Goodley, 2013:632). As far as the social model is concerned, students with impairments should be welcomed as valued members in higher education institutions (Powell, 2003:10). When seen from an institutional perspective, the inclusion of learners with impairments essentially demands that higher education institutions should investigate the most appropriate ways to help to educate all learners together and to respond to individual differences (International Bureau of Education/IBE-UNESCO, 2007:15; Sapon-Shevin, 2007:22). In particular, higher education institutions should make appropriate institutional arrangements and provide support to ensure the inclusion of learners with impairments in all aspects of campus life, including curricula, learning and teaching, assessment, and access to educational resources (UNESCO, 1994:18). Special attention should be given to girls and women with impairment, since they are often discriminated against as a result of both their impairment as well as their gender (UNESCO, 1994:18). Most importantly, institutional requirements need to be audited regularly and improved on by higher education institutions to satisfy any additional needs of students with VI (Powell, 2003:47).

As a higher education institution AAU is required to meet the institutional requirements discussed above when serving students with VI. In particular, the university is expected to implement an enabling policy for the inclusion of students with VI in all aspects of their academic and social lives.

### **3.2.2 Policy**

In most UN member countries, including Ethiopia, the inclusion of people with impairments is usually considered to be a policy issue (Economic Commission for Africa/ECA, 2009:17; UNESCO, 2002:4). As policy frames the way we think and act, it should be in place in order to

shape the responses of higher education institutions towards the inclusion of students with impairments (Nguyen, 2010:342). As stated in the Salamanca Framework, educational policies should take into accounts both individual differences and contextual situations. In this regard, higher education institutions can act as a catalyst for change in promoting the rights and equality of students with impairments (ECA, 2009:17; UNESCO, 2002:4). National as well as institutional policies or legislation should recognize the principle of equal opportunities for people with impairments in higher education (UNESCO, 1994:17). To this end, higher education institutions are expected to create enabling policies that promote the inclusion and participation of students with impairments (UNESCO, 1994:18). These policies should look at special provisions for students with impairments in terms of the nature of their impairment and gender (Daniels, 2001:146). Specifically, higher education institutions are responsible for creating and enforcing enabling policies so as to ensure equal opportunities for students with impairments, including students with VI (UNESCO, 2010:1). These policies should be publicized widely and also be made available in a range of formats that suit students with VI (McCarthy & Hurst, 2001:15; Powell, 2003:5). By the same token, AAU has an obligation to achieve the policy-related requirements for addressing the special needs of students with VI as discussed above.

### **3.2.3 Admission**

Recent evidence indicates that students with VI can enrol and succeed in several fields of study in higher education (Powell, 2003:41). Therefore, it is the students' choice of subjects that determines the fields of study in higher education institutions (Powney, 2002:11; Taishoff Centre, 2010:1). Institutions that find it difficult to recruit students with impairments should be more flexible about their entry criteria and should also be more supportive of applicants with impairments than of their non-impaired peers (Jacklin *et al.*, 2007:25). Students with impairments should make conscious or informed choices about their fields of study on the basis of the information provided by the institution, prior to their making subject choices (Fuller, Bradley & Healey, 2004:465). In addition, positive role models are of particular importance in influencing the choice of students with impairments to enrol at a specific university or in a specific program (Jacklin *et al.*, 2007:8, 25; UNESCO, 1994:27). Besides, the institutions should encourage students with VI to study in different fields, including biological sciences, medicine and related fields (Powell, 2003:47). When students with VI study in certain fields, a number of reasonable adjustments and safety strategies should come into play (Powell, 2003:47). Instead of starting to think about what adjustments would need to be made once a student with VI has arrived on campus, higher

education institutions should review and adapt admission procedures in advance (Powney, 2002:23). Thus, higher education institutions should be required to make reasonable adjustments for students with VI as well as to anticipate their needs and plan accordingly.

#### **3.2.4 Strategic planning**

Research about inclusive education affirms the importance of strategic planning to determine the areas on which higher education institutions should focus when supporting students with impairments. Planning is also essential when they adapt strategies once they had identified and eliminated barriers (Jacklin *et al.*, 2007:47). Each higher education institution in Ethiopia is required to produce a resource strategy and implementation plan that sets out the overall priorities and targets for the departments of the whole institution (Powney, 2002:8). The main aim of developing a strategic plan is to set institutional or departmental targets both for widening the participation as well as retention of students with impairments in higher education (Powney, 2002:12). More importantly, it is advisable to plan ahead and explore every option in detail in order to meet the unique needs of students with VI (Salisbury, 2008:15), because proactive planning of the provision of support for the specific needs of students with impairments can contribute significantly to the realization of inclusivity in higher education institutions (Karten, 2010:63). It is vital to involve students with VI in the planning, preparation and adaptation of the learning environment of higher education (Salisbury, 2008:8).

#### **3.2.5 Access to support**

Several studies mention the importance of support services for effective practices in the context of inclusive education (Meijer, 2001:118). For example, the Salamanca Framework highly recommends the provision of both internal and external support services because both are crucial for the successful implementation of inclusive policies and practices (UNESCO, 1994:31). In order to achieve true inclusion, additional support needs to be provided through either in-campus advisory centres or special visiting support staff (Meijer, 2001:11; Powell, 2003:5). Consultation is another useful model that can be implemented in all instructional settings (Clayton *et al.*, 2010:35). In fact, the amount of time needed for consultation can vary, depending on the students' needs and the instructional setting (Clayton *et al.*, 2010:35). For instance, higher education institutions should have full-time advisers or officers of students with impairments to provide consistent assistance to students about matter such as applying for concessions to be made in



assessment tasks and examinations (McCarthy & Hurst, 2001:15). In particular, as it is a legal requirement for students with VI to be given mobility training and orientation from specialist mobility officer it is advisable that such training should be continued throughout the students' university career (Salisbury, 2008:12).

One important support system that is sometimes overlooked is peer tutoring. Although the establishment of internal support systems to students with VI might vary from university to university, peer tutoring is one support system which should be taken into account. This support system can engage peer mentors or peer tutors who can be either university classmates, or personal note-takers (Taishoff Centre, 2010:2). This is evident in the findings from the review of international literature that indicates the importance of peer tutoring in the creation of effective inclusive environments for students with VI (Meijer, 2001:117). For example, peer tutors or mentors can provide students with VI with important support in amending handouts and modifying assignments and assessments (Powney, 2002: 23).

### **3.2.6 Resources**

It is believed that changes in policy cannot be effective unless resource requirements are met (UNESCO, 1994:41). The provision of adequate resources is stated as a priority in the Salamanca Framework and considered as one of the most important requirements in the development of inclusive education. Since the successful inclusion of students with impairments depends largely on the availability of resources, university staff should have access to the resources needed by both students with impairments and non-impaired students (Meijer, 2001:10). Unfortunately, the limitation of resources remains a barrier in higher education institutions in developing countries, and therefore, it is advisable to intensify advocacy activities to ensure resource allocation (Eleweke & Rodda, 2000:7). Above all, institutional political commitment is needed to obtain additional resources and to make the best use of those they have (UNESCO, 1994:19). Thus, apart from obtaining additional resources, it is essential that resources are used efficiently and that resource centres should be established in order to support students with impairments (UNESCO, 1994:41).

According to the theories of the micro economics of teaching, the term resources refers not only to knowledgeable and skilled staff, but also to the finances, materials and time available for inclusive instruction (Meijer, 2001:10). Kinsella and Senior (2008: 655) suggest that the terms

*resources* should refer to human, financial, physical and technological resources. Both the Standard Rules and the Salamanca Framework acknowledge that access to human resources, materials and finances an essential requirement for creating opportunities for equal participation of people with impairments in all spheres of society (UNESCO, 1994:ix, 41; United Nations, 1994:17). In this sense, *human resources* refers to university staff, students, parents, communities and organizations for people with impairments (UNESCO, 1994:ix, 41; United Nations, 1994:17). The training of staff is vital and they need to have positive attitudes towards people with impairments (Meijer, 2001:118). As support staff are often required to adapt learning materials for students with VI, it is advisable to give the overall responsibility of managing resources to one support staff member (Salisbury, 2008:19).

The financial situation of students with impairments also has a definite impact on inclusive educational practices (Meijer, 2001:118). For example, students' allowance and loan systems play a crucial role to assist students with impairments to pursue and complete their undergraduate studies (Morley, 2012:4; Powell, 2003:45). This can be seen in affirmative action efforts that have been introduced and funded by international donors and significantly increased the number of female students especially in science programs (Morley, 2012:4).

It is also very likely that a student with VI will need adaptive materials, as well as more time to study for a higher education qualification (Powell, 2003:45). Creating adaptive materials needs funding, but allowing students to have more time merely requires organization and commitment from the institution to create an inclusive environment. Thus one can conclude that human, physical and financial resources and the granting of additional instructional time are important prerequisites for successful inclusive education.

### **3.2.7 Academic requirements**

Inclusive higher education requires the consideration of academic variables that seem useful to inclusive practices (Meijer, 2001:11). There are several academic requirements that university staff need to take into account when working with students with VI (Powell, 2003:48). One of the fundamental requirements for inclusion or widening participation in higher education institutions is the designing of inclusive programs with academic guidance and support (Powney, 2002:29).

### **3.2.7.1 Designing inclusive programs**

Case studies reported by Powney (2002:21) reflect a variety of approaches to designing inclusive programs to widen participation in the higher education sector. Powney advocates that the first step in course design should be identifying the characteristics of prospective higher education students. It is vital to understand the motivation and existing skills and knowledge that students with impairments have on enrolment. In addition, when course providers devise wider participation strategies, they should consider the needs students have before, at the onset, and during their courses of study (Powney, 2002:21). The important thing here is that educators should think flexibly about achieving the same goals by different means. For instance, one common area of need is that course study materials should be made available in alternative formats. In this sense, a student with VI does not only have the right to materials that have been presented in non-traditional formats (e.g., printed text converted into Braille), but they also have the right not to be disadvantaged by the time taken for the conversion (Powell, 2003:5). The recommendations arising from the study of Jacklin *et al* (2007:49) indicate that higher education institutions should ensure that a good range of courses and programs should be made available in good time. In addition students with VI need to have sufficient time to move from one lecture to another. The distance between lecture and seminar rooms and other social spaces should be taken into account when timetables are worked out. When field work and field trips are considered it is advisable for lecturers to visit locations before they finalize their plans to take students with VI along because of additional issues like safety and risk assessments that need to be considered (Salisbury, 2008:11). A useful starting point here is to make contact with those involved and explore how they can help in planning and executing the fieldwork (Shepherd, 2001:19).

Powney (2002: 30) emphasizes the importance of supporting students with VI from pre-entry to graduation through all the stages of their courses in order to retain them in higher education programs. Specific attention should be given to first year programs, and to teaching students how to learn at higher education institutions (Jacklin *et al.*, 2007:7). As a result, prospective students can take advantage of the flexibility of learning opportunities in terms of the development of courses and curricula, instructional strategies and assessment methods (Powney, 2002: 29)

### **3.2.7.2 Curricular requirements**

The other practical requirement for making inclusion successful is dealing with curricula to suit

the diverse needs of learners with impairments (Sapon-Shevin, 2007:xvi). According to the Salamanca Framework, curricula should be adapted to learners' needs rather than vice-versa (UNESCO, 1994:22). Such adaptation of a curriculum requires the analysis of what higher education institutions offer to their students and what expectations they have of students with impairments (Powell, 2003:4). In particular, higher education institutions are expected to focus on curricular adaptations and modifications (Jacklin *et al.*, 2007:48; McCarthy & Hurst, 2001:9) that should include admission requirements, course selection and grading methods (Taishoff Centre, 2010:2). Alternatively, curriculum differentiation could refer to an alternative way in which the curriculum is delivered (Ashman, 2010:71). Thus curriculum differentiation can be achieved by making changes to the learning environment, the content, the process or methods of teaching and learning, the methods of assessment, as well as the human and material assistance needed (McCarthy & Hurst, 2001:9). Both curriculum adaptations and curriculum differentiation are relevant to this study

### **3.2.7.3 Instructional requirements**

Karten (2010:63) argues that it is unfair to ask all students in modern inclusive classrooms to achieve the same results if the methods of instruction are not varied and adapted to the needs of all learners. The best way to achieve this is to ensure that lessons are delivered in ways that are interactive, participatory and varied. The student-centred pedagogy recommended by the Salamanca Framework is a proven principle that can benefit all learners, avoid the waste of resources, and reduce the attrition rate at higher education institutions (UNESCO, 1994:7). It has been seen in practice that students with VI require more instruction time and a wide range of instructional adaptations to address their unique learning needs (Meijer, 2001:10). For example, instruction in the academic core curriculum might require additional time beyond that allocated in the normal academic day and year (Clayton *et al.*, 2010:19). Therefore, plans to provide extended instructional time and other instructional and program modifications need to be in place to meet all identified needs of students with VI so that they are able reach the same levels of performance as sighted students (Clayton *et al.*, 2010:19).

### **3.2.7.4 Assessment requirements**

It is commonly accepted that the assessment methods used in a university course should be linked to the aims and objectives of the course. In order to check the attainability of course

objectives by students with VI, the assessment practices of a higher education institution should be changed through the implementation of three approaches, namely alternative assessment, additional arrangements and accommodations or adaptations (Powell, 2003:5; Wray, 2002:8). For example, higher education institutions should apply alternative forms of assessment when conducting formative and summative evaluations to assess the performance of learners with VI (Powell, 2003:5; University of Adelaide, Australia, 1998:3). Traditional attitudes to assessment need to be changed to include alternatives to written assignments. In many modern higher education curricula, written essays and assignments are replaced by a variety of assessment approaches such as continuous assessment focusing on the acquisition of skills (McCarthy & Hurst, 2001:9), oral examinations, video- and audio-taped responses and the use of online learning management systems, among others. No matter what assessment method is used, it is essential that they should assess what they set out to assess and that they meet the learning outcomes (Wray, 2002:7).

Examiners can make additional arrangements for students with VI by providing additional tools or physical resources, such as Braille versions of tests and assignments, verbal or electronic copies of examinations and computers on which students can do examinations or assessments (McCarthy & Hurst, 2001:17; Wray, 2002:7). Even if appropriate arrangements are made for assessing students with VI, university staff need to recognize the issue of time, because these students often need additional time to process information and complete tasks (Powell, 2003:5, 45; Salisbury, 2008:21; Wray, 2002:7). For example, tasks involving the use of technology take longer for students with VI to complete than their sighted peers (Powell, 2003:45). Therefore, the maximum amount of extra time should be provided in order to assess students with VI (McCarthy & Hurst, 2001:17)

#### **3.2.7.5 Staffing requirements**

As Savolainen (2009:281) argues, the existence of competent teachers is an internationally accepted requirement for the implementation of good inclusive education. Similarly, both the Salamanca Framework and the Ethiopian SNEPS acknowledge that the appropriate preparation of all university lecturers and administrative personnel is a basic educational requirement since it is a key factor in promoting inclusive education (MoE, 2006:25, 31; UNESCO, 1994:27). Salisbury (2008:18) suggests that support staff, such as disability support workers, teaching assistants and teachers qualified to assist students with VI, should be available at higher education institutions

to provide students with impairments and their lecturers with effective support in every aspect of higher education. In particular, it is essential for higher education institutions to employ specialist staff to provide students with VI with disability-related services (Shepherd, 2001:19). For example, there should be either a disability officer or an equal opportunity officer to provide on-campus information, general advice and resources that students with VI need (Shepherd, 2001:19). In addition to university-wide support structures being made available, course leaders should actively involve staff with VI or staff members with experience of visual impairment as members of teams or as advisers about programs (Powney, 2002:19; UNESCO, 1994:7). If assistants were to be assigned to course leader they would further enhance their capacity for providing individual learners, including those who are visually impaired, with appropriate attention (Watkins, 2009:224). In addition, student counsellors and peer tutors who can provide students with VI with important services should be available (Powney, 2002:23).

### **3.2.8 Social requirements**

Universities have a responsibility to play a key role in creating good social relations between students with VI and staff members. Therefore, universities should value diversity in order to create opportunities for social inclusion of learners with VI in their contexts (Powell, 2003:6). According to Claiborne *et al* (2011:515), social inclusion refers to the full participation of all students as part of a community of students in all aspects of higher education, whether they are impaired or not. In particular, it is important for academic staff to be sensitive and to have good communication skills at classroom level in order to enhance social interaction between students (Meijer, 2001:11). On the other hand, Morrow (1999:146) notes that students with VI themselves should also work towards achieving good social relations in class with their lecturers and sighted peers. However, it must be remembered that social interaction is not limited to the classroom (Tashoff Centre, 2010:4). For example, field study must be recognized as an academic and social activity of a degree course in which students with VI should be fully socialized with their peer group (Shepherd, 2001:3).

As the totality of the social experience of students includes the extra-curricular life at the university, higher education institutions also have the responsibility to include students with VI in extra-curricular activities (Powell, 2003:6). In an ideal inclusive higher education situation, for example, students with VI interact with other students by participating in campus organizations, attending sporting events and campus concerts (Tashoff Centre, 2010:4). In addition, students

with VI need to be exposed to recreational and leisure activities like Blind Sports, since they help develop good social attitudes (Shepherd, 2001:5).

In addition to including students with VI in extra-curricular activities, it is necessary to create awareness as it is an important condition for social inclusion in higher education. Therefore, higher education institutions should take action to raise the awareness of all staff members and students about the rights, needs and contributions of people with VI in their community (UNESCO, 1994:40; United Nations, 1994:13). Higher education should transform the social identity and acknowledge the potential of students with impairments, so that they can use their newfound social capital for national, economic and social development (Lopez, 2009:299-300; Morley, 2012:3-4). Since the social potential of students with VI encourages their feeling of independence, they will be able to participate meaningfully in their education and lead independent lives after graduation (Clayton *et al.*, 2010:19). In this sense, it is possible to acknowledge the connection between social inclusion and inclusive higher education. In other words, social inclusion can be considered as a pathway to attain educational inclusion or vice versa (IBE-UNESCO, 2007:16). As a result, students with VI should be encouraged to interact with others in both social and educational activities in order to ensure effective inclusive higher education (Morrow, 1999:163).

In general, higher education institutions, including the university under study, are expected to achieve those requirements discussed above when involving students with VI in academic and social activities. If higher education institutions do not respond properly to meet these requirements, their inclusive practices will be challenged. In fact, the actual realization of inclusive education at universities as well as their responses to the requirements highlighted by scholars seems to be in an infancy level in Ethiopia. When seen from an institutional perspective, the actual inclusion of students with VI is being threatened by various barriers in several higher education institutions, including AAU. It is evident that higher education institutions should identify and remove barriers in all aspects of higher education in order to meet the ultimate goal of the inclusion of students with impairments (Booth & Ainscow, 2002:3; Claiborne *et al.*, 2011:515; Taishoff Centre, 2010:2). Accordingly, this research aimed at reviewing the challenges or barriers to inclusive higher education and finding appropriate solutions to the problems faced by students with VI.

The next section examines the challenges that students with VI experience in higher education institutions worldwide.

### **3.3 CHALLENGES TO INCLUSIVE HIGHER EDUCATION**

The theoretical principles and legal frameworks discussed earlier (see Chapter 2) have promoted inclusion as an appropriate approach in higher education institutions in both developed and developing countries. Even though the realization of inclusive education is the best indicator of success in higher education, turning inclusive strategies and requirements into reality is much more difficult for the practitioners and policy-makers (Sapon-Shevin, 2007:63). The aforementioned theoretical and legal frameworks can be used by researchers to examine critically the sources and types of challenges that affect the educational and social inclusion of students with VI in higher education institutions, including the university under study. According to existing literature, the challenges or barriers to inclusive learning can be explained simply in terms of the features of the education system itself; these barriers include unresponsive policies, badly-designed curricula, inappropriate methods of instruction and assessment, poorly trained teachers, as well as inaccessible physical environments or facilities (Peters, 2007:7; UNESCO, 2001:220)

#### **3.3.1 Challenges associated with inclusive policies**

An area in which challenges are evident is the policies that higher education institutions implement for the inclusion of students experiencing impairments. Booth and Ainscow (2002:5) suggest that barriers to inclusive learning and participation can be found in all aspects of local and national policies. The study made by Amadio (2009:293) on inclusive education in Latin America and the Caribbean also indicates that one of the main challenges in the region is the gap between the stated policies and standards and the practice of implementing them in inclusive settings. Although inclusion has been adopted as an important educational policy on the basis of social justice and equality, it is not being satisfactorily implemented in several developing countries, probably due to the absence of clear and enabling institutional policies (UNESCO, 2010:1-2). When it comes to the Ethiopian context, the general legislative frameworks embedded in local policies such as the SNEPS make the inclusion of students with VI in higher education mandatory. However, most Ethiopian higher education institutions, including AAU, lack clear and forceful institutional procedures for the inclusion of students with VI. Although the university legislation document states that the university shall have an office for diversity and equal opportunity that will devise mechanisms for implementing fair treatment of students with impairments (Addis Ababa University, 2007:257-258), no practical steps have been taken by AAU to ensure equal



opportunities of students with VI. It is clear that students with VI at AAU have been challenged because of the absence of a clear, binding and supportive institutional policy.

### **3.3.2 Challenges to access information and inclusive support systems**

Even though the situation varies from university to university, students with impairments can face several barriers when they try to access information and support when they are learning and living at higher education institutions. The lack of commitment and reliable channels of information especially, have become a serious challenge to the inclusion of students with impairments (Shevlin, Kenny & Neela, 2004:50). For example, Murr and Blanchard (2011:205) note that lecturers' own belief about the capability of students with VI to access visual information is one of the reasons that students are not allowed to take courses in the visually oriented disciplines like geography. Even though the challenges faced by students with VI in the study of such visual disciplines can be met through providing access to information in alternative formats and assistive technologies, the negative attitudes of university staff members hinder students from joining the programmes (Murr & Blanchard, 2011:205).

As the existing reality at some universities shows, the inaccessibility of support systems and adjustments and adaptations often challenges the inclusion of learners with VI (Taylor, 1997:62). Once these students are admitted to university, they encounter further barriers owing to the unwillingness of lecturers and the lack of trained professionals employed to support learners with impairments (ECA, 2009:17). As Jacklin *et al* (2007:5) found, the absence of formal and informal academic support structures at the University of Sussex in the United Kingdom is experienced as a potential challenge to learners with impairments. Their study also found that students with impairments themselves reported that the absence of academic support structures is a substantial challenge which affected their social and learning performance. It is the researcher's belief that inaccessibility of information in alternative formats and a lack of formal and informal support systems are the most likely challenges to students with VI at the university under investigation

### **3.3.3 Lack of curricular accommodation**

Unless the curricula of an institution accommodate the diverse needs of learners at higher education institutions, inclusive education cannot be successfully implemented. In this regard, the South African White Paper 6 indicates that one of the most significant barriers for learners at

inclusive higher education institutions is the curriculum (Department of Education, 2001:31). For instance, barriers to learning can arise from different aspects of the curriculum, such as the content, the organization and management of lecture halls or lectures, the methods and pace of teaching, the time available to complete the curriculum and the learning materials and equipment used (Department of Education, 2001:31; Taylor, 1997:61). In particular, students with VI might experience difficulties when they are required to work with visual curricular materials presented as charts, diagrams and tables (McCarthy & Hurst, 2001:11) that have not been adapted. In addition, the different learning styles of students with impairments have been largely ignored in higher education curricula (Smith, 2010:66). In general, the lack of adjustment and adaptation to instructional strategies and assessment are found to be a major challenge for students with VI in inclusive settings (Wray, 2002:9).

#### **3.3.4 Lack of resources**

In one way or another, most of the challenges to inclusive higher education in developing countries are associated with the lack of resources. For example, the lack of access to education for learners with impairments in the poorest countries sketches a negative picture of education systems and is a result of a lack of resources (Ainscow & Sandill, 2010:411). In several developing countries, the challenge to access resources is associated with prevailing economic and developmental difficulties so that the implementation of effective inclusion remains an unrealistic goal (Ainscow & Sandill, 2010:411). It is evident, therefore, that the greatest barrier to the inclusion of students with impairments in those countries is a lack of human, material and financial resources (Ainscow & Sandill, 2010:411; Claiborne *et al.*, 2011:521-522).

##### **3.3.4.1 Human resources**

In one way or another, most of the challenges to inclusive higher education in developing countries are associated with the lack of resources. For example, the lack of access to education for learners with impairments in the poorest countries sketches a negative picture of education systems and is a result of a lack of resources (Ainscow & Sandill, 2010:411). In several developing countries, the challenge to access resources is associated with prevailing economic and developmental difficulties so that the implementation of effective inclusion remains an unrealistic goal (Ainscow & Sandill, 2010:411). It is evident, therefore, that the greatest barrier to the inclusion of students with impairments in those countries is a lack of human, material and financial

resources (Ainscow & Sandill, 2010:411; Claiborne *et al.*, 2011:521-522). Shevlin, Kenny and Neela (2004:51) argue that the current arrangements for allowing access to higher education are grossly inadequate for students with impairments. This is because practitioners and policy-makers within the education systems lack adequate knowledge. Of particular concern is that there is a severe shortage of academic staffs who are adequately trained to improve the quality of inclusive education in sub-Saharan Africa (UNESCO, 2010:2). In addition, the status and working conditions of academic staff in many Sub-Saharan countries make it difficult for them to encourage inclusion (UNESCO, 2010:2). In this regard Walton and Lloyd (2012:62) suggest that the effective training of teachers on how to meet diverse learning needs is one of the challenges to the implementation of inclusive education in South Africa. Without a sound and relevant knowledge base and positive attitudes towards inclusion, university staff members are not capable of participating fully in the development of an inclusive environment (Forlin, 2010:649).

The academic staff members who have limited or no knowledge of inclusive education might either be reluctant to accept students with impairments or not able to adjust their methods of instruction to accommodate the unique needs of learners with impairments (Sapon-Shevin, 2007:73). As a result, students with impairments experience frustration with their teachers' lack of technical skills and commitment to make accommodations (Claiborne *et al.*, 2011:525).

In particular, the findings from 13 studies quoted by Meijer (2001:19) concerning teachers' perception of effective inclusive practices demonstrate that little attention is paid to students with VI. In the context of higher education institutions lecturers themselves could constitute a barrier to inclusion because they are unable to deliver accessible instructions to learners with impairments (Claiborne *et al.*, 2011:521). When students with impairments experience barriers to accessing teaching methods and materials, they encounter difficulties with inclusive learning and participation (Claiborne *et al.*, 2011:521). Administrators and other service providers who lacked the knowledge and training to support students with impairments showed frustration at their inability to provide the resources students with impairments required (Claiborne *et al.*, 2011:522). Specifically, the awkwardness of administrators in responding to the expressed needs and entitlements of learners with impairments is seen as a barrier to inclusion in higher education institutions (Claiborne *et al.*, 2011:521). In general, barriers to avail proper human resources can either prevent access to higher education institutions or limit participation of students in the system (Booth & Ainscow, 2002:5).

### **3.3.4.2 Physical/material resources**

The inaccessibility of physical resources is an important challenge to students with VI at higher education institutions. For example, many impaired learners experience barriers to learning primarily owing to the system's inability to accommodate their diverse learning needs with accessible physical environments and educational materials (Department of Education, 2001:32). Thus, learners with impairments, including students with VI, are directly influenced by the wider structural features or the physical environment of the university and the inaccessibility of material resources (Taylor, 1997:61).

#### **a) Inaccessible physical environment**

One of the typical barriers to inclusive higher education is the inaccessibility of the physical environment such as the unavailability of ramps for wheelchairs in buildings (Wray, 2002:9). In many countries, people with impairments often have poor access to water and sanitation because of the physical barriers, such as the absence of ramps and steps as well as the inappropriate design of buildings (ECA, 2009:16)

#### **b) Lack of adaptive/assistive materials and technologies**

Not only the physical environment, but also the inaccessibility of educational and adaptive/assistive materials can affect inclusive education for students with VI. Students with VI experience educational barriers owing to the absence of curricular materials and handouts in accessible formats (Wray, 2002:9); especially materials printed in Braille or voice recorded on mobile devices (Sygall & Scheib, 2005:17). For example, Alves, Monteiro, Gaspaetto and Carvalho (2009:148) note that the absence of assistive technology, including information technology (IT) negatively affects the social and educational challenges that students with VI in Brazil face every day. Alves *et al* (2009:148) further note that some of the barriers to the use of IT for the education of students with VI include the unequal allocation of equipment as well as poor access to computers. These barriers are attributed to the lack of specific programs for the use of IT in classrooms and the absence of a commitment to make IT available to teachers and students with impairments. As a result, very few Brazilian teachers use IT for educating students with VI, and this, in turn means that students with VI do not learn how to use computers (Alves *et al.*, 2009:149-150). Claiborne *et al* (2011: 517) also mention the frustration students with

impairments complained about because of the absence of adequate assistive technology and their inability to use the existing technology

#### **3.3.4.3 Financial resources**

A lack of financial resources is becoming a great challenge for many developing countries. One of the most serious barriers to inclusion in those countries is the lack of adequate budgets (Ainscow & Sandill, 2010:411; Claiborne *et al.*, 2011:522). As Eleweke and Rodda (2002:117) recognize, educational institutions are not adequately funded, especially in developing countries because of prevailing economic and political challenges. Since the estimated cost of the inclusive education of students with VI at higher education institutions is greater than the costs of educating their sighted peers, the absence of financial support might be critical to them (Eleweke & Rodda, 2002:120-121). It appears that the provision of educational services to students with VI is deteriorating owing to the absence of adequate funding in many African countries (Ainscow & Sandill, 2010:411; Claiborne *et al.*, 2011:522).

All in all, the absence of enabling policies, the lack of support services, inadequate curricula adaptation, the shortage of well-prepared staff members, inaccessible physical/material resources, as well as a lack of funding structures are the major challenges faced by students with VI in higher education institutions (Eleweke & Rodda, 2000:2). The intention of the researcher to identify those challenges from prior empirical studies was to use them as a point of focus when undertaking the data collection processes for this study. Although the current study focuses on identifying the existing challenges of the inclusion of students with VI in a specific higher education institution, it may not be considered as a final result unless associated solutions are outlined.

Therefore, the next section explores the solutions suggested in previous studies with the aim of adapting them to the particular context of AAU

### **3.4 POSSIBLE SOLUTIONS FOR REMOVING CHALLENGES TO INCLUSIVE EDUCATION**

Following on from establishing a philosophical framework based on theoretical and legal frameworks that acknowledge and address challenges to inclusion, the researcher explored some practical solutions from suggested in previous studies. He felt that this information could inform

his investigation and that some ideas could be applied by AAU in order to remove or reduce the wide spread challenges facing students with VI.

### **3.4.1 Enabling policies and legislations**

In legal terms, the inclusion of students with VI in higher education necessitates clear and enabling policies to ensure the provision of equal opportunities and full participation in all aspects of university life (Shepherd, 2001:17). To achieve this in academic and other activities which take place from admission to graduation there should be relevant and clear policy guidelines at both institutional and departmental level (Shepherd, 2001:18). This is of particular importance because it affects students with VI, all lecturers and others who are responsible for management, strategic planning and service provision (Powell, 2003:27). Ultimately, higher education institutions have to work on an access-to-success continuum by promoting policies that provide clear directions for addressing the diverse needs of learners with VI and providing solutions to their problems from admission to graduation (UNESCO, 2010:1). In addition there should be the will to translate the directions of policies into concrete actions thereby successfully ensuring the full inclusion of students with VI (Amadio, 2009:293). In this way higher education institutions will meet the requirement of regular proactive assessment of the impact of their policies and in so doing they will be able to make the changes suggested by such assessments (QAA, 2010:10).

### **3.4.2 Accessing support services to students with visual impairment**

It is clear that strengthening support services will enable inclusive higher education institutions to reduce barriers to inclusive learning at all levels and is imperative in meeting the unique needs of students with VI (Department of Education, 2001:29) who require various types of support from a range of specialists (UNESCO, 2010:2). The types of support that should be considered are academic (e.g., access to information and tutorial support), emotional (e.g., commitment from family and partners, or co-operation with fellow students), and practical (e.g., help with academic tasks, housework, space to study, facilities, time and comfortable working arrangements) (McNicol & Nankivell, 2001:34; Moreland & Carnwell, 2000:181). In this regard Avramidis and Skidmore (2004:67) include the provision of a physical working environment (e.g., buildings), learning resources (e.g., adaptive materials), working arrangements (e.g., time for study) and technical support of IT technicians as important types of support.

As far as academic support is concerned, both formal and informal support structures should be provided to include students with VI in the most effective way (Jacklin *et al.*, 2007:5; Wray, 2002:6). According to Avramidis and Skidmore (2004:67), informal and formal academic support includes personal tutor support and support from lecturers in departments. Salisbury (2008:18) suggests that support staff, including learning support assistants and teaching assistants, can be valuable resources for students with VI. For example, a learning support worker (LSW) could support students with VI by describing photographs, explaining what is written on cue cards and helping students to engage in the role play with partners (Lewin-Jones & Hodgson, 2011:3). Peer tutoring programs are also an easy and effective form of support (Meijer, 2001:31). For example, tutors can provide alternative means of presenting visual materials by giving spoken explanation to activities or visual resources. This type of support could even be taken as the primary means of instruction for students with VI in certain circumstances (Lewis-Jones & Hodgson, 2011:4; Northwestern University, 2011:1). Another means of support can be for tutors to voice record materials and lectures, take notes and provide tactile materials to assist understanding. They can also act as readers of examinations and library resources (Lewis-Jones & Hodgson, 2011:4; Northwestern University, 2011:1). On the other hand, more specialized services will probably be necessary in the provision of emotional support as they might need counselling services from university counsellors, psychotherapists and psychiatrists, as well as other external specialists (Avramidis & Skidmore, 2004:67). As a means to provide both emotional and academic support, mentoring seems to be preferred (Claiborne *et al.*, 2011:513). In short, the inclusion of students with VI requires support at university level. It should be natural for students with VI to involve all staff members and peers in accessing various types of support (Booth & Ainscow, 2002:6). To this effect, adequate and appropriate training should be given to lecturers, administrative workers, librarians and technicians, to build their capacity to provide safe environments that are conducive to including students with VI (Orsini-Jones, 2009:32)

### **3.4.3      Modifying or adapting the curriculum**

It has been mentioned above that curricula create the most significant barriers to inclusive learning for many learners. Thus it is reasonable to suggest that curricula should be flexible enough to accommodate different learning needs and styles (Department of Education, 2001:31). Flexible curricula that are accessible to all learners, irrespective of the nature of their learning style, should be central to any attempts to accommodate diversity at higher education institutions (Ashman, 2010:67). Hence, curricula need to be adapted to remove the barriers experienced by

learners with VI and to ensure their full inclusion (Ashman, 2010:67; UNESCO, 2010:2). To this effect, higher education institutions should consider the needs of students with VI when designing the curricula of various programs (Powell, 2003:27). For example, allowing students with VI to enrol in visual disciplines like geography and mathematics, would enrich their lives and provide new opportunities for sighted students to learn from their colleagues with VI (Murr & Blanchard, 2011:205). When seen from a legal perspective, students with VI have both the need as well as the right to study any subject like any other student who might not have impairments (Scoy, McLaughlin, Odom, Walls & Zuppuhaur, 2006:1287). As assistive technology and devices have been shown to help to minimize barriers for students with VI studying visual fields of specialization (Murr & Blanchard, 2011:200,205), higher education institutions should allow the students to join departments of their choice and should have no reason for rejecting them because of their impairment. In addition, offering students with VI a choice of subjects to by means of adapted content and delivery can improve their motivation towards learning (Smith, 2010:64). Besides, all university staff members should recognize the different starting points, experiences and learning styles of all students, including students with VI when planning lessons (Booth & Ainscow, 2002:6

#### **3.4.4 Adapting the instructional methodologies**

It has become very important to allow students with VI to take advantage of choices available in terms of instructional strategies or multiple methods and tools for inclusive learning (D'Andrea, 2012:15). According to the findings of several international reviews, co-operative teaching (team teaching), co-operative learning (peer tutoring), individual planning, collaborative problem- solving and flexible instruction are the five approaches used in effective inclusive education (Meijer, 2001:117-118). In this regard, Peters and Oliver (2009:276) specifically acknowledge the importance of a strength-based teaching approach and co-operative learning in successful inclusive education. In keeping with these propositions, Ashman (2010:668) advises higher education institutions to consider innovative instructional approaches like co-teaching and peer-mediated learning, in order to remove the barriers that students with VI face.

The Northwestern University (2011:2) highlights nine general strategies that higher education institutions can apply to enhance the accessibility of course instruction, materials and activities for students with VI.

- It is important to have copies of the syllabus and reading assignments ready two or



three weeks prior to the beginning of classes so that documents are available for recording.

- It is useful to provide students with VI with material in alternative formats.
- It is vital to repeat aloud what is written on the board or presented on overheads and in handouts.
- It is necessary to pace the presentation of material and allow time for students with VI to find the information by referring to a textbook or handout.
- It is fundamental to allow students with VI to record lectures.
- When appropriate, it is crucial to ask for a sighted volunteer to team up with a student with VI for an in-class assignment.
- Keeping a front row seat open for a student with VI is appropriate.
- Making early arrangements for field trips is necessary.
- Flexibility regarding deadlines is important if educational activities or assignments

It is evident from these strategies that most of the barriers that students with VI encounter in visually-oriented programs in higher education can be removed through the adaptations of learning and teaching strategies (see 2.5.2). It is also evident that the strategies are implemented at universities like the Northwestern University in Chicago, USA. It seems to be apparent that higher education institutions, including AAU, should apply the instructional strategies mentioned above to facilitate their efforts to meet the challenges and unique learning needs of students with VI.

In addition to the strategies mentioned above, assignments and other assessment mechanisms should be adapted to meet the needs of students with VI

### **3.4.5 Adapting the assessment mechanisms**

Some of the barriers that students with VI encounter can be minimized by changing assessment procedures or by implementing alternative methods of assessment (Wray, 002:8). This can be achieved by adapting assessment formats to suit the needs of students with VI (Clayton *et al.*, 2010:19). Specifically, students with VI might require extra time for examinations (time and a half is the usual extension), an alternative format for exams (e.g. oral, Braille), a separate and distraction-free examination room, the use of computers for long answers and essay questions or

the use of specialized adaptive equipment or software like text readers (Concordia University – Access Centre for Students with Disabilities, 2011:1).

In summary, students with VI need adapted curricula, instructional methodologies and assessment mechanisms to reach the same levels of performance as sighted students. The adaptations or adjustments described above can contribute to removing the challenges those students with VI and university staff members experience in potentially inclusive higher education institutions.

The researcher agrees with Booth and Ainscow (2002:5) who argue that an important aspect of removing or minimizing barriers to inclusive education involves mobilizing resources within the institution and its communities. Therefore, it is essential to outline the range of resources that should be accessible to students with VI and the community at higher education institutions.

#### **3.4.6 Accessing resources**

Access to resources is one of the key elements in ensuring equality of opportunities and quality of education for students with VI (Powney, 2002:5; Wray 2002:9). Since the provision of resources will contribute to ensuring equality of opportunities (Powney, 2002:5), it is incumbent upon higher education institutions to allocate adequate human, physical and financial resources to implement inclusive education successfully (ECA, 2009:9; Kinsella & Senior, 2008:655).

##### **3.4.6.1 Human resources**

There are several factors associated with the provision of human resources that can create a supportive environment for students with VI (Namibian Ministry of Education, 2008:2). Furthermore, the allocation of adequate human resources is important in order for higher education institutions to remove barriers to learning and ensure the full inclusion of students with VI. Powney (2002:5) stresses that either universities or individual departments should allocate appropriate human resources to provide varying levels of support to students with VI and to remove any challenges they might encounter in all aspects of higher education. In order to achieve this, universities and departments should be resourced by appropriate staff members, such as lecturers, technicians, librarians, peer mentors, note-takers, student advisors, administrators, special education teachers, teaching assistants, paraprofessionals and local

service agencies to provide relevant support to students with VI (Orsini-Jones, 2009:32; QAA, 2010:26; Taishoff Centre, 2010:2).

As academic staff members are primarily responsible for the planning and delivery of instruction in the academic core content of programs, they should take the lead and work collaboratively with support staff to modify the instructional design and materials to suit the needs of students with VI (Clayton *et al.*, 2010:19). Such support may come from any combination of departmental or institution-wide staff (QAA, 2010:26). If this were to be achieved, the subsequent development of an inclusive educational system in which academic staff members are supported in their responsibilities, will have major implications for educational leadership (Ainscow & Sandill, 2010:407). In order to ease the burden, educational leaders would be advised to encourage inclusive learning processes and foster greater capacity among their staff for responding to learner diversity in inclusive contexts (Ainscow & Sandill, 2010:405).

In addition to academic staff members and leaders, other professionals can play an important role in providing students with VI and their lecturers with specialized support. Therefore, higher education institutions should have sufficient designated staff members with appropriate skills and experience to provide specialist support and advice to students with VI and to the staff who work with them (Clayton *et al.*, 2010:21). Specifically, the unique needs of students with VI can be addressed by using a variety of specialist services from teachers trained to deal with students with VI (Clayton *et al.*, 2010:2, 21). The roles of such specialists can be to educate and support all university staff members who work with students with VI (Clayton *et al.*, 2010:2). This can be done through in-service training to prepare staff and to provide them with appropriate strategies to use to include students with VI in higher education institutions (Salisbury, 2008:13).

It is also important to use paraprofessionals, such as peer mentors and individual assistants, to support students with VI. These professionals can provide various forms of special support, including assistance in daily activities, safety and access to the environment and materials (Clayton *et al.*, 2010:27). As Concordia University-Access Centre for Students with Disabilities (2011:2) recommends, a university could recruit classmates of students with VI to act as note-takers when faculty members are unable to provide notes in the required format. Another idea is offered by Jones (2008:24) who suggests that higher education institutions could implement Peer Assisted Learning (PAL); seniors support junior students who are studying in the same discipline.

Alternatively, students with VI can hire and manage their own readers, tutors, and other assistants (Booth & Ainscow, 2002:5).

In order for support mechanisms such as those discussed above to be successful, academic and administrative staff, technicians, librarians and other professionals should work together (Orsini-Jones, 2009:33) by means of partnerships or collaborations (Lloyd, 2008:230). Furthermore, staff members directly and indirectly involved in support programs, including lecturers, administrators and related service providers need to attend staff development programmes to learn how to support students with VI (Orsini-Jones, 2009:32; Sapon-Shevin, 2007:98). These staff development programs should include general orientation for managers as well as professional staff on visual impairment and on how to avoid barriers in inclusive higher education (Department of Education, 2001:18). In particular, raising awareness on individual differences is imperative for those staff members who have limited prior experience of working with students with VI (Powell, 2003:42). In order to orient staff at all levels and raise their awareness of the challenges faced by students with VI it is important that senior managers of higher education institutions should invest time and financial resources in relevant staff development programmes in order to respond effectively to the needs of students with VI (Shepherd, 2001:15).

#### **3.4.6.2 Physical resources**

Both research and best practice have shown the need for establishing and accessing enabling physical resources to accommodate students with VI. The researcher agrees that these students should have equitable access to the physical resources of higher education institutions in which they study, learn, live and participate. This includes access to physical environments like buildings, facilities and equipment (Tertiary Education Commission (TEC) & Ministry of Education (MoE), 2004:30

##### **a) Accessing of the physical environment**

Unless the physical environment is accessible to students with VI, it is not possible to ensure their successful inclusion in higher education. If these students can have easy access to the physical environment many barriers to learning that they experience can be reduced (Salisbury, 2008:8). As noted by the ECA (2009:16-17), public buildings, and sanitation facilities should be made accessible to all students and the inclusion of steps and other design features should not make

movement difficult for students with impairments. In addition access to appropriate housing should also be considered. Much can be learned from the State of Texas (2010:15) which recommends that accessible housing as well as adjusted physical and recreational environments should be made available to promote the health, independence of students with VI and to encourage their participation in academic, cultural and social activities. More importantly, students with VI should be able to access physical facilities like cafes and other social spaces, as well as toilets without unnecessary difficulty (ECA, 2009:17).

In order to make buildings welcoming, comfortable, accessible, attractive and functional, special attention should be given to the design and development of entrances and routes of travel, furniture and fixtures (Burgstahler, 2009:2). For example, classrooms should be designed to be used in a number of different ways. They should have clear directional signs for the partially sighted and doors with sensors that can open automatically for the blind (Burgstahler, 2009:2).

In addition to accessible physical environments, the provision of adaptive material and specialized technology is vital for students with VI in inclusive classrooms

#### **b) Accessing adaptive material and technology**

Having access to adaptive materials can help to overcome some of the challenges that students with VI experience (D'Andrea, 2012:2). For example, the difficulties students with VI have when trying to work with visual or written texts, charts, diagrams and tables can be resolved through common adaptive materials, such as sound recorders, Braille writers, Braille transcribers, raised line paper or other tactile cues, abacuses, talking graphing calculators, and victor reader streams (Clayton *et al.*, 2007:20; Concordia University – Access Centre for Students with Disabilities, 2011:2; McCarthy & Hurst, 2001:11; Northwestern University, 2011:1).

Technology can also be used to the benefit of students with VI. In this sense, specialized technology is defined as any device that helps students with VI to easily use an educational product or environment and enhances their experience and participation in inclusive settings (Orsini-Jones, 2009:33; Powell, 2003:27; Story, 1998:5). Various reports claim that the use of a wide variety of specialized technology has had a significant impact on the learning and lives of students with VI (D'Andrea, 2012:2; State of Texas, 2010:15). Therefore, it is reasonable to expect higher education institutions to supply specialized equipment and technology for students with VI

since they need them to access learning and information (Powell, 2003:43). It has become critically important to provide students with VI with as many special devices and technologies as possible in order to enable them to access specially designed electronic resources like textbooks and curricular materials (D'Andrea, 2012:15; Northwestern University, 2011:1). For many students with VI computers are basic tools that enable them to participate in educational activities. If higher education institutions use computers as information resources, it is very important to access the printed publications in alternative formats, including Braille and electronic text (Burgstahler, 2010:3). By accessing e-texts using a screen-reader, in which the information on the screen is voiced electronically by means of a speech synthesizer or using a printer that has Braille display (Powell, 2003:43), students with VI can have easy access to learning materials. A speech synthesizer produces a range of synthetic voices that the student can select whereas Braille displays have arrangements of plastic pins that move up and down to create the dot patterns of Braille (Powell, 2003:21).

In conclusion, higher education institutions should supply the adaptive materials and specialized technology to students with VI in order to provide them with the same information offered to their sighted peers (Alves *et al.*, 2009:149-150). The ultimate goal of adaptive materials and technology should be to give students with VI independence by enhancing their communication, mobility, reading and writing skills, and allowing them some control of their environments. It also allows students with VI to rewrite and correct texts with autonomy in private (Alves *et al.*, 2009:148). Materials in libraries, museums and archives should be valuable resources for independent learning of all students, not only to sighted students (McNicol & Nankivell, 2001:9). Thus, the provision of adaptive materials and specialized technology that are specifically geared to the nature of particular subject fields and the preferences and prior experiences of students with VI would enhance their chances of success (D'Andrea, 2012:12).

#### **3.4.6.3 Financial resources**

Since the inclusion of students with VI requires specialist human and material resources, a well-structured funding arrangement is desirable to meet the needs of those learners. At a general level, special funds should be allocated from the university to maintain a variety of projects, such as the setting up of departmental support, production of adaptive or electronic learning materials, and so on (Avramidis & Skidmore, 2004:79). It is also crucial to specify the amount of money that the university provides for the procurement of necessary facilities and materials, and the hiring of

personnel to support students with VI (Eleweke & Rodda, 2002:117-121). As Concordia University-Access Centre (2011:2) argues, even though students with VI might be responsible for engaging their own assistants like readers and tutors, the university should arrange to pay for these services through student funding programs. In addition, students with VI could secure funding through an allowance scheme to purchase specialized equipment and the necessary consumables (Shepherd, 2001:22). Most importantly, it is necessary for legislation or mandatory orders to be in place to facilitate access to funds and address budget-related claims of students with VI, possibly even at department level. Rules and regulations of higher education institutions should be in place to regulate responsibilities and to guard against misuse of financial resources (Eleweke & Rodda, 2002:117-121).

In conclusion, the successful implementation of inclusive higher education for students with VI can be attributed to the accessibility of required human, physical and financial resources. The university under study as a whole, and even individual departments could apply the findings of previous studies to their own situation and consider maximizing the accessibility of support structures and resources in order to enhance learning and promote the inclusion of students with VI. In addition, adapting the best international practices could make a significant contribution to enhancing the inclusive policies and practices in developing countries, including Ethiopia where the university under study is situated. The next section will focus on international best practice that higher education institutions can consider in order to adapt to their particular contexts.

### **3.5 HIGHER PRACTICES FOR CREATING A FULLY INCLUSIVE ENVIRONMENT IN HIGHER EDUCATION**

Several countries have set out their best practice standards with the aim of assisting tertiary education providers to create fully inclusive education systems. In this regard, the researcher has selected the codes of practice of the United Kingdom, Australia and New Zealand as significant examples of how equality of access and opportunities for tertiary impaired students, including students with VI, can be achieved (Tertiary Education Commission & Ministry of Education/TEC & MoE, 2004:9). These examples can be used as the basis of a proposal on how to assist students with VI at AAU. The New Zealand code of practice is regarded as particularly helpful as it is designed to assist tertiary education providers to create a fully inclusive environment for students with impairments through ongoing identification and the removal of barriers in all areas of campus life. Since this code of practice was produced after thorough investigation of the successful codes

of practices in the United Kingdom and Australia, it seems understandable that it could be adapted by the university under study and other higher education institutions in the developing world (TEC & MoE, 2004:9). In addition, there are important reasons for adapting or adopting the New Zealand code of practice for the particular context of the university under study. Firstly, it is intended to have an impact on the participation and achievement of students with VI in the full range of academic programs. Secondly, it can be applied to the wider facets of campus life, such as social, cultural and recreational activities.

Finally, the implementation of many of New Zealand's best practice standards can have a positive impact on staff or service providers at the university under study to meet their specific obligations relating to students with VI, and review services for students to derive the most benefit from the resources and services that are on offer (TEC & MoE, 2004:12). In brief, the New Zealand code of practice comprises a number of topic areas covering different aspects of an inclusive environment: these include policies and planning, admission, access to support services and the provision of resources (TEC & MoE, 2004:5).

In the next section the best practices of a number of countries is discussed with the view to glean information that can inform the rest of this study. In addition, it is the researcher's firm belief that higher education institutions, including the university under study, would do well to adopt the best practices discussed below in order to ensure effective inclusive education for students with VI.

### **3.5.1 Policy and planning**

The needs and rights of students with impairments as learners in higher education institutions have been officially recognized through the disability-related legislation in many developed countries, including the USA, the United Kingdom, Australia and Israel. As a result, these countries have achieved positive support for students with impairments, as well as the staff (Fuller, Bradley & Healey, 2004:456). In addition, the policy frameworks of such countries can be considered as good examples for most developing countries, including Ethiopia, that do not have disability-specific legislation for their higher education institutions.



Of particular interest, the New Zealand code of practice indicates that all policies and planning processes in higher education institutions should take into account the following best practice standards:

- Students with VI participate in the development and review of relevant policies, procedures, services and facilities;
- All policies and planning processes take into consideration the participation of students with VI in academic and other areas of campus life;
- Policies and procedures that guide the interaction between staff and students with VI are in place and are understood by staff;
- The impact of policies and procedures should be reviewed in consultation with designated and trained experts, senior managers and students with VI; and
- A strategic plan is developed as well as reviewed and reported on annually in collaboration with students with VI (TEC & MoE, 2004:14)

Accordingly, higher education institutions, including AAU, should have a disability policy and compatible strategic plan which meets the aforementioned standards and creates fully inclusive higher education for students with VI. In particular, the development of university policies, procedures and strategic plans should be sanctioned by senior management structures (TEC & MoE, 2004:15) or the highest level of decision-making bodies in an institution (QAA, 2010:14).

### **3.5.2 Selection and admission**

The New Zealand best practice includes a vision that is intended to ensure fair and transparent selection and admission policies and procedures by assessing students on their competencies rather than their impairments. This code of practice further outlines the following best practice standards for the selection and admission of students with disabilities:

- Course advisors should take into account the particular needs of students with VI in their subject selection and have appropriate training to fulfil this task;
- Staff, involved with selection and admission, should provide appropriate support to applicants with VI in selection activities and receive effective guidance and training to prevent disability discrimination;
- Handbooks and other advisory material should be available in accessible formats;

- Course selection criteria should be reviewed to make sure they are suitable, applicable, and do not discriminate against applicants with VI; and
- Appeal processes for students with VI rejected on the grounds of impairment should be available and widely publicized (*TEC & MoE, 2004:18-19*).

Once students with VI are admitted to various programs in accordance with the above standards, it is important to think about the provision of general and specialized support in all aspects of their higher education.

### **3.5.3 Access to general and specialist support services**

Orsini-Jones (2009:33) notes that it is vital to share good practice about consistent and coherent provision of support to students with VI and all staff of higher education institutions. There are different codes of practice that stress the importance of making general and specialized support accessible to all students with impairments (Hayes, 1997:259). According to the best practice of Latin America and the Caribbean, accessibility of support is a critical issue for students with VI to ensure equal opportunity and to enable them to learn and succeed in inclusive settings (Peters, 2007:5). Higher education institutions can significantly improve the access for all students by applying different support services. The New Zealand code of practice, for example, addresses those access factors by setting out the following basic support standards:

- Students with VI should have access to the full range of support services available to their peers. Where existing services are not accessible, alternative services and/or arrangements should be made;
- Services to all students should be reviewed regularly to ensure that they meet the emerging requirements of students with VI;
- General and specialist support staff should have the skills, experience and support to provide effective advice and support to students with VI and other staff;
- Prospective students with VI should be contacted early enough to arrange appropriate and effective support;
- Support services should assist students with VI to become independent members of the academic and student community;

- Support services should have effective networks and cooperate with other institutions and relevant statutory/voluntary agencies; and
- General and specialist support staff should meet their obligations related to the policies and other relevant legislation (*TEC & MoE, 2004:23-25*).

As described in the New Zealand code of practice, specialist staff should include disability support staff, note-takers, readers, writers and specialist tutors, whereas general support services can include all those services providing academic, administrative and general support. Specialist support services should comprise specific facilities, equipment, programmes, personnel and other arrangements to assist students with VI. Specialist support for students with VI can be enhanced by ensuring support staff (e.g., note-takers, specialist tutors, reader-writers), have the appropriate skills, a professional attitude and receive adequate training and appropriate remuneration (*TEC & MoE, 2004:24-25*).

#### **3.5.4 Best practices for staff development**

As discussed above, higher education institutions should provide a range of specialist support services to students with VI through a special service in collaboration with other university departments, including academic and administrative departments. At AAU this is called the Disability/Access Service. To achieve such support, tertiary institutions should ensure that there are sufficient designated staff members with appropriate knowledge, skills and experience to provide the services needed (*QAA, 2010:29*). Consequently, it is necessary for staff development programs to be provided to enable staff to gain the appropriate capacity through a series of continuing professional development activities that will enable them to contribute towards an institutional culture that is fully inclusive (*QAA, 2010:16*). The New Zealand code of practice, which has its origins in a social model of disability, also acknowledges the need for staff development programs (*Claiborne et al., 2010:5*). According to this code of practice, staff development initiatives should include the following best practice standards to create a fully inclusive environment

- Disability training should be adequately resourced and arranged as part of induction and development programs for all staff and those involved with teaching;
- Specialist expertise of impaired people should be actively involved in staff disability training;

- Staff should have access to resource information about creating an inclusive educational environment on an ongoing basis;
- Designated contacts for students with VI in different parts of the campus should have appropriate and ongoing professional development; and
- Strategies to measure if staff members have the knowledge and skills to work effectively with people with VI should be developed and implemented (TEC & MoE, 2004:41).

Where possible, tertiary education institutions should provide short training programs that focus on raising awareness on disability, as well as longer accredited training programs together with ongoing staff support to help to improve inclusive practices (TEC & MoE, 2004:42). According to the best practice of the UK, induction programs for all staff and accredited learning and teaching courses for new academic staff, have been seen to contribute to the development of an inclusive institutional culture (QAA, 2010:16). Ideally, staff induction programs should cover disability equity issues, barriers and solutions to inclusive learning and teaching, the principles and benefits of universal instructional design, inclusive teaching practices, curriculum development and learning resources, the types of support available to students with VI, obligations under the Human Rights Act and other relevant policies as well as strategies for planning, implementing and evaluating support for students with VI (TEC & MoE, 2004:42). Senior management should facilitate and monitor the training so as to improve attendance (TEC & MoE, 2004:42). Academic promotion opportunities or annual appraisals of staff members who are successful practitioners of inclusive education, especially in learning and teaching and assessment, can be devised to encourage staff participation (QAA, 2010:16).

### **3.5.5 Best practices to access teaching and learning strategies**

Another area of best practice to make inclusion work in higher education is related to accessible teaching and learning strategies. As stated above, in the UK code of practice both the design and implementation of teaching and learning strategies should recognize the rights of students with VI and their participation in all activities of the program of study (QAA, 2010:23). Similarly, the New Zealand code of practice requires university staff to design and implement appropriate teaching and learning strategies in order to access all academic programs for students with VI in higher education institutions (TEC & MoE, 2004:35). To this effect, it is important for teaching staff to plan and employ accessible teaching and learning strategies and make reasonable

accommodations in the delivery of courses to make them as inclusive as possible for students with VI, without compromising the essential standards of their programs (TEC & MoE, 2004:35). The following inclusive teaching and learning strategies and related activities from the New Zealand code of practice are important to take into consideration.

- Adapting teaching in line with the different learning needs and preferences of students with VI;
- Providing information in alternative format, such as electronic, Braille and audio taped versions of print material, transcription of videos, and tactile diagrams;
- Accessing electronic handouts that can easily be put into other alternative formats;
- Arranging material for students with VI and their support staff in advance, to enable them to prepare for the class (e.g., providing the outline of the class);
- Implementing flexible modes of delivery; and
- Encouraging students with VI to seek accessible academic and vocational placements, including re-locating field trips to alternative sites or offering alternative experiences (TEC & MoE, 2004:36-37).

In addition, students with VI should be provided with support and guidance to participate in research programs and complete the research successfully (TEC & MoE, 2004:35). Above all, staff should consult students with VI themselves about what they need and what might help them. They should also be asked about what the real effects of adaptations on their learning strategies could be. As a result, students will be able make useful contributions to the creation of standards in a course (TEC & MoE, 2004:38).

### **3.5.6 Best practices to access examination and assessment**

The role of assessment is also of immense importance to ensure that real inclusion takes place in higher education institutions. Most importantly, Henninger and Hurlbert (2006:7-12) identify some substantial principles for best practices in undergraduate education as frameworks to address the diverse learning needs of students with impairments in course assignments or assessments. The principles include encouraging the connection between students with VI and the academic staff; fostering cooperation among students; providing immediate feedback, allocating more time for tasks, creating attainable expectations of and respect for the diverse talents and learning styles of students. Because it is acknowledged that students with VI learn in

different ways, the New Zealand code of practice includes the provision of alternative examination or assessment procedures and reasonable accommodation of the specific needs students might have (TEC & MoE, 2004:39). Specifically, reasonable accommodation for examinations and assessment of students with VI may include:

- Flexibility in the balance between assessed course work and exams to help minimize issues like stress;
- Applying assessments in alternative ways, such as presentations in oral exams, assignments instead of exams, short-answer instead of multiple-choice exams or vice versa, assessments which vary question and response options (e.g., audio or video tape instead of written answers);
- Additional time allowances and re-scheduling of exams;
- The use of computers, note-takers, reader/writers and other support in examinations;
- Presentation of assessed work in alternative formats;
- Additional rooms and supervisors for those using alternative arrangements; and
- Extended deadlines for assignments (TEC & MoE, 2004:39-40).

It is also recognized that having access to the physical environment and assistive technology can facilitate the successful implementation of assessment mechanisms for students with VI (QAA, 2010:24).

### **3.5.7 Best practices to access physical resources**

Both personal research and a review of codes of practice have shown the need for all students to have access to physical resources. In the case of students with VI physical resources usually need to be modified in order to accommodate them. This is evident in the codes of the UK and New Zealand that strongly recommend higher education institutions to have equitable access to the physical resources in which students with VI study, live and participate. Physical resources include physical environments, facilities and equipment (QAA, 2010:31; TEC & MoE, 2004:30).

#### **3.5.7.1 The physical environment**

Generally speaking, physical environments refer to buildings and associated facilities. The New

Zealand code of practice (TEC & MoE, 2004:30-32) identifies the following standards of best practice that seem particularly important for students with VI to access the physical environment:

- Physical access audits should be completed by trained Barrier Free Auditors in consultation with disability support staff and students with VI;
- Audits should take into account all buildings including student accommodation, teaching-learning, administration, general and specialist support, spiritual and recreational facilities;
- An access plan to improve physical access for students with VI should be developed, resources allocated, and an ongoing monitoring and review schedule established and implemented;
- The annual review of the physical access plan should involve students with VI, disability support staff and those responsible for audits;
- Policies and procedures should exist to ensure that the needs of students with VI are taken into account when any new building work takes place;
- Key access features such as location of lifts, accessible telephones, toilets, routes, entrances and parking should be clearly signed and identified on campus maps;
- Campus signs and tactile maps should be available in accessible formats; and
- Students with VI should be aware of relevant changes affecting physical access during work on buildings and grounds.

As described in the New Zealand's code of practice, audits and planning should cover the physical access requirements of students with VI and include buildings, landscaping and car parking. It is also important that tertiary institutions develop a three- to five-year physical access plan in consultation with students with VI and disability support staff. If physical access is difficult, the institution should be flexible regarding where classes are held, including moving teaching from inaccessible areas (TEC & MoE, 2004:31-32).

### **3.5.7.2 Facilities and equipment**

The New Zealand code of practice for an inclusive tertiary educational environment mentioned above points out a list of best practice standards on how campus facilities and equipment should be made accessible to students with impairments, including students with VI. An important standard is that the planning of facilities and equipment should incorporate the needs of students

with VI and should be implemented in consultation with these students and disability support staff (TEC & MoE, 2004:32-34). In practical terms, facility and equipment planning should take into consideration the layout of classroom tables and laboratory benches, appropriate signs and information (e.g., Braille notices and tactile maps), design and layout of seating in lecture theatres, computer and other laboratories, and the easy use of equipment in laboratories, computer and teaching rooms (TEC & MoE, 2004:33-34).

Moreover, campus facilities like fire evacuation plans, health and safety or security materials should be fully accessible to students with VI. In addition to general notifications such as these, students with VI should also be provided with suitable specialist equipment, including information technology and computer arrangements in order to maximize their access to learning (TEC & MoE, 2004:32-34). Access to information technology includes electronic material that is made accessible to students with VI through the use of adaptive, assistive and specialist hardware and software on computer networks (QAA, 2010:27; TEC & MoE, 2004:34). In the UK the government makes grants such as Disabled Students' Allowances available to students because they regard the use of ICT as an important means of enabling students with VI to engage fully in their programs of study (Powell, 2003:23, 27). In general, all the best practices discussed above could be useful to higher education institutions in Ethiopia, including AAU, in their attempts to address the rights and entitlements of students with VI according to the Human Rights Act and other legal and theoretical guidelines.

### **3.6 CONCLUSION**

In this chapter, the fundamental requirements of inclusive education were outlined based on existing theoretical principles and legal frameworks (see 2.3 and 2.4) with the aim of using them as conceptual references with which to examine the current inclusive policies and practices in higher education institutions in Ethiopia, including AAU. For example, the requirements proposed to provide access support for students with VI include providing counselling and mobility training and orientation from experts, and peer tutoring from university classmates or personal assistants throughout the students' education career. The use of peer tutors or mentors can be of particular benefit as they can take notes, modify assignments and assessments. Such support systems should take into account by higher education institutions. In addition, higher education institutions should be committed to obtaining additional human, material and financial resources, as well as establishing resource centres in order to support students with VI efficiently. In general, higher



education institutions, including AAU, are expected to meet the stated requirements (see 3.2) to ensure that the rights of students with VI are met and that they are given equal opportunities to participate and succeed in educational and social activities.

It is accepted that the actual implementation of inclusive education varies from university to university. Nevertheless, the discussion of existing challenges or barriers that hinder the full participation and inclusion of students with VI was based on the experiences of higher education institutions from developed and developing countries. In this chapter the possible solutions that could be implemented to overcome many of the challenges experienced by students with VI and staff members in higher education institutions were examined. Finally, a variety of best practice standards that could be adapted to the unique circumstances of the university under study was identified. The next chapter focuses on the research methodology that the researcher applied in this study.

## **CHAPTER 4**

### **RESEARCH METHODOLOGY**

#### **4.1 INTRODUCTION**

In Chapter 1 of this study a brief background to the problem was presented, including the aims and questions of this study. In Chapter 2 detailed information on the theoretical and legal frameworks that guide the inclusion of students with VI in higher education institutions was discussed, with special reference to the university under study. In Chapter 3 the requirements to inclusion and challenges experienced by students with VI in higher education institutions were outlined. Practical solutions and key best practice standards from previous studies and professional literature were identified with the view to suggesting the most appropriate strategies to be applied by higher education institutions when serving students with VI. In this chapter the research design employed to retrieve the necessary information from the participants in order to answer the research questions of this study is described.

#### **4.2 RESTATEMENT OF THE RESEARCH PROBLEM**

The first stage of any research process is the identification of a research problem, including the formulation of research questions and aims, to help the researcher determine the focus of the research.

##### **4.2.1 Orientation**

The aim of this study is to determine how best to implement an action plan to progressively increase the support of students with VI at AAU. The problem centres on the fact that the world view that accepted practices that excludes people with disabilities has changed to one in which inclusive practices are promoted. Practices are often the last to change in the chain of paradigms, theories, policies and attitudes. At AAU it is necessary for the practices followed to support students with VI to be changed to make them more inclusive than they are.

##### **4.2.2 Formulating the research problem**

The research problem investigated in this study is formulated around the existing challenges.

That students with VI experience and the development of an action plan to support such students at AAU. The following are the research questions formulated for this study:

### **Primary research question**

The central or primary question of this research is: How best can an action plan be implemented over a period of five years to progressively increase the support of students with VI at AAU?

### **Secondary research questions**

The following secondary or sub-questions are formulated for this study:

1. What are the challenges that students with VI face at AAU?
2. What resources (human, physical and financial) are necessary to provide effective support to students with VI?
3. What solutions are available for AAU to overcome the challenges or barriers that students with VI face?
4. What is the best way in which such a plan can be developed for AAU?

## **4.3 RESEARCH DESIGN**

According to (Fouché & De Vos, 2005:133; Henning, Van Rensburg & Smit, 2004:30), a research design is considered as an act of designing a study in its broadest sense. Particularly, it refers to all decisions made by the researcher in planning the study, including the overall design, the methods to be used for sample selection, data collection, data analysis and the presentation of findings. In the present research, the researcher planned to apply the following broad paradigms and associated research methods to inform the overall design of this study.

### **4.3.1 Philosophical foundation**

According to researchers De Vos, Schulze and Patel (2005:3), Neuman (2006:81) and Neuman (2007:42), there are three main paradigms used in academic investigation, namely the positivistic, interpretive and critical paradigms. Unlike the positivist paradigm, the interpretive approach notes that the study of human social life tends to be subjective and qualitative as opposed to the

objective and quantitative paradigms used in the study of science. Most researchers who use the interpretive paradigm adopt the view of social reality from the perspective of the participants being studied (Neuman, 2007:43). In this paradigm the goal of research is to seek the participants' views of the situation being studied (Creswell, 2003:8; Creswell, 2007:21). The assumption is that participants seek a better and in-depth understanding of the context in which they live and work (Creswell, 2003:8; Creswell, 2007:21). Qualitative researchers often use the interpretive paradigm to frame their studies on societal issues that influence marginalized and excluded individuals like students with VI (Creswell, 2007:24). Research within the interpretive paradigm often includes calls for action and reform on issues of social injustice (Creswell, 2007:24). Interpretive methods are applied mainly in the humanities and emphasize the detailed examination of texts (Neuman, 2006:88) to enable researchers to develop a deep understanding of how the parts relate to the whole (De Vos, Schulze & Patel, 2005:6). The interpretive paradigm is applicable to this research, since the researcher seeks to find out more about the participants' views of the challenges that students with VI might experience at AAU. The researcher hopes to find practical solutions to the challenges that will transform the situation at AAU. In addition the researcher also used the interpretive paradigm in this research to inform the detailed examination of support measures already incorporated in AAU's operational plan for the support of students with VI.

Since the critical and interpretive paradigms share many features, and both seek to convert knowledge into action in order to address socio-political issues, the researcher used the critical disability theory as a philosophical foundation to this study (Neuman, 2007:44).

Unlike other paradigms, the critical approach tries to avoid the gap between abstract theory and empirical evidence or experience and tried to change the social world (Neuman, 2007:44). The importance of applying the critical theory in general and critical disability theory in particular in this research is not only to advance social justice but also to empower those individuals who are powerless in some socio-political arenas (Creswell, 2007:30; Neuman, 2007:44). As noted above (see 2.2.1.3) many studies of disability in the 21<sup>st</sup> century have used the critical disability paradigm since it provides theoretical responses to the structural, financial, social and cultural challenges encountered by students with VI (Goodley, 2013:631). Critical disability theory is distinguished from other theories because it has become critical to seek human emancipation (Bohman, 2012:1). In this research it is used to investigate the transformation of inclusive education in the institution (AAU) and the lives of people with impairments (Creswell, 2003:9). In this study the

researcher used the critical disability approach as a broad theoretical foundation in his attempts to find ways to emancipate students with VI from existing academic, structural, financial, social and cultural barriers at AAU. The researcher applied both interpretive and critical disability paradigms as philosophical foundations to explore the prevailing challenges and suggest a set of intervention strategies to ensure the full inclusion of students with VI at the university.

This research was conducted in three phases. Phase 1 was a literature study, undertaken to determine possible ways in which students with VI could best be supported in higher education. Phase 2 was empirical research aimed at determining the challenges that students with VI experience at AAU. Phase 3 followed after the researcher had compiled a list of possible support measures and had given it to a group of experts. The findings from the three phases of this research answer the primary research question. Since the researcher started with research questions rather than hypotheses, this study is designed in the qualitative paradigm (Leedy & Ormrod, 2001:101).

#### **4.3.2 Qualitative paradigm**

Unlike the positivist paradigms, the interpretive and critical paradigms are often used in qualitative approaches to study complex phenomena (Creswell, 2003:18; Leedy & Ormrod, 2001:101-102). In particular, the interpretive paradigm favours qualitative data (Neuman, 2007:43) and provides a framework for all aspects of a qualitative research design (Creswell, 2007:24). In practical terms, the aim of the research and the nature of the research questions are critical for the selection of the research approach or methodology (Grut & Ingstad, 2005:6). For example, qualitative research usually focuses on general research questions with the purpose of seeking a better and deeper understanding of complex situations by collecting extensive verbal data and building theory inductively (Creswell, 2003:18; Leedy & Ormrod, 2001:101-102). In particular, qualitative research can study the social processes or cases in detail in their socio-cultural contexts and interpret data from participants' points of view (Hatch, 2002:6; Neuman, 2007:88). With reference to the present research, it can be said that more research of this kind is needed to gain a greater understanding of inclusive educational practices. The interpretive paradigm allows the researcher to study the phenomenon from the perspectives of various participants such as teachers, administrators and students in their natural settings (Punch, 2000:100). For these reasons the researcher applied the qualitative approach in this study since

he sought to gain an in-depth understanding of the actual inclusion of students with VI in the social and educational contexts of AAU from the participants' perspectives.

In addition to aims and questions of a study, the nature of a research problem can be considered as the basic criterion on which to select a qualitative rather than a quantitative approach (Creswell, 2003:21). For instance, the exploratory nature of research that might focus on new issues or a population that has not been studied before can be one of the major criteria for applying a qualitative approach (Creswell, 2003:30). If a problem under investigation is relatively new and has not been studied with a particular sample, it merits a qualitative approach (Creswell, 2003:22). In addition, the qualitative approach can be applied when a researcher needs to gain further understanding about a phenomenon because little research has been done on it (Creswell, 2003:22). Accordingly, this study is qualitative in design because inclusive education is a relatively new trend in Ethiopia as it and its practical consequences in higher education institutions are mainly unexplored.

Furthermore, this research adopted a qualitative paradigm since it is characterized as holistic, emerging and inductive (Creswell, 2007:19; Leedy & Ormrod, 2001:102). Thus, qualitative researchers investigate a social or human problem using emerging approaches in which categories, patterns and theories emerge flexibly from the data that is gathered (Creswell, 2007:39; Leedy & Ormrod, 2001:102). They seek a holistic view of social phenomena through interactive communication with participants in their natural settings (Creswell, 2007:38; Hatch, 2002:6). Qualitative researchers often purposively select just a few participants for their investigations. The selection is based on the participants' knowledge of the phenomena under investigation (Creswell, 2007:19; Leedy & Ormrod, 2001:102). Qualitative researchers themselves become the main data-collecting channel and collect data through multiple instruments they have developed in order to determine the lived experiences and views of the participants (Creswell, 2007:38; Hatch, 2002:7). The final qualitative research report includes the voices of participants as well as the researcher's personal and literary interpretation on what he or she has seen, heard and understood (Creswell, 2007:38-39). In the data analysis process, qualitative researchers inductively develop a set of categories, patterns and themes (Creswell, 2007:38). Since the researcher planned to apply all these principles in this research, he found the qualitative approach to be very appropriate.

### 4.3.3 Exploratory character

It is mentioned above that the exploratory nature of a research project is one of the basic reasons to select the qualitative over the quantitative approach (Creswell, 2003:21). Qualitative researches are often exploratory in nature since they seek information about unknown aspects of a phenomenon in order to build a new theory (Creswell, 2003:22; Leedy & Ormrod, 2001:102; Teddlie & Tashakkori, 2009:25). The other purpose of exploratory research is to generate a better understanding of complex situations (Leedy & Ormrod, 2001:102; Neuman, 2007:15). By the same token, the present research is qualitative and exploratory in nature while it focuses on the issues of inclusive higher education institutions in Ethiopia that have not been studied before. In other words, this research focuses on an inclusive education which is a new and complex approach to the community of AAU with the purpose of trying to understand the phenomenon.

In brief, the qualitative exploratory approach was found to be the most appropriate for this investigation because it allows the researcher to generate detailed information about a new and complex phenomenon (e.g., inclusive education) and requires the researcher to answer exploratory research questions using multiple data sources. For these reasons the researcher used two qualitative methods, namely a case study and the Delphi method, since they could be instrumental in answering all the exploratory research questions (Teddlie & Tashakkori, 2009:25; Yin, 2009:8). The rationale for using both a case study and the Delphi method in this study was to obtain sufficient qualitative information as well as to execute methodological triangulation.

#### 4.3.3.1 Case study

One of the typical designs of qualitative research is case study (Creswell, 2007:35; Teddlie & Tashakkori, 2009:22). A case study is an empirical investigation that examines a current phenomenon (inclusive education in the case of this study) in detail and in its real life context (Yin, 2009:18). In practical terms, a case study can be used to investigate common cases, including individuals, organizations, processes, programs, institutions and even events (Yin, 2009:17). As the researcher intended to examine the challenges that students with VI have experienced in the implementation of inclusive education within the unique context of AAU, the case study method seemed appropriate.

Case studies can be applied in evaluation research to describe the real life contexts in which something has occurred as well as to explore intervention strategies (Yin, 2009:20). As a research method, the case study clarifies how a set of decisions have been taken to improve the situations being investigated (Yin, 2009:17). Accordingly, the researcher adopted the case study method, especially the single-case design, as the preferred method to evaluate the current inclusive policies and practices of AAU with the purpose of seeking a deeper understanding of the challenges that students with VI face and the remedial decisions that should be taken to overcome the challenges. The rationale for the selection of a single-case study design to this research is that it enabled the researcher to make an in-depth examination of the inclusion of students with VI only. Other disability groups were not considered because in this way fewer resources were required than if multiple case studies or other types of case study had been applied (Yin, 2009:46).

#### **4.3.3.2 Delphi method**

The researcher applied the Delphi method as a complementary method to that of the exploratory case study as it enabled him to collect richer data that could lead to a deeper understanding of the primary research question of this study (Okoli & Pawlowski, 2004:18). The other advantage of Delphi research is its flexibility and potential to solicit a great deal of information from a group of experts in the area being investigated (Fraenkel & Wallen, 2006:12; Okoli & Pawlowski, 2004:18). In addition its flexibility to collect both qualitative and quantitative data that can address many research questions provided further impetus for selecting the Delphi method in this study (Okoli & Pawlowski, 2004:18; Skulmoski, Hartman & Krahn, 2007:9). Besides, the researcher believed that the Delphi method could be a useful process to forecast future directions in the promotion of inclusive higher education of students with VI (Putnam, Spiegel & Bruininks, 1995:2). Accordingly, the Delphi method was used in this study to forecast future support measures for students with VI at AAU, and then to generate an appropriate action plan based on the opinions of a group of experts who have expertise and qualifications in inclusive education.

Although several researchers label Delphi as a forecasting method because of its significant use in few areas of human endeavour, there is a surprising variety of other application areas (Turoff & Linstone, 2002:3). For example, the Delphi method can be applied to investigate unknown historical events, feasibility of budget allocations, policy options and curriculum development at universities (Turoff & Linstone, 2002:3-4). Specifically, the Delphi method is useful for educational research focusing on planning, curriculum development, learning experiences and trends in



higher education (Green, 2014:2). Furthermore, Delphi surveys can be applied as a method to examine complex problems, like the problem under study, by structuring group communication among experts in a panel (Turoff & Linstone, 2002:3).

Since this research incorporated the majority of the aforementioned application areas, the researcher found it appropriate to use the Delphi method in order to address the primary as well as the second, third and fourth secondary research questions. In particular, the Delphi method was found to be a desirable choice for this study because it allowed the researcher to obtain the judgments of a group of experts on future directions and to develop a sound action plan that can be implemented by AAU for the maximum benefit and support of students with VI.

The Delphi method has two distinct forms, namely Conventional Delphi and Delphi Conference (Turoff & Linstone, 2002:5). Researchers often apply the Conventional Delphi method which is typically referred to as Delphi Exercise or the paper-and-pencil version. In this version of Delphi a small monitoring team (the researcher in the case of this study) designs a questionnaire and summarizes the group results. Conversely, the Delphi Conference, a more recent version, replaces the monitoring team with a computer program to create a summary of the group results (Turoff & Linstone, 2002:5). As it is difficult to access the computer program, the researcher chose the Conventional Delphi for this study in which he developed a questionnaire that he distributed to Delphi participants either by mail or in person.

As it is possible to use multiple methods in any given study, the researcher applied the case study method followed by the Delphi method in order to gain a thorough understanding of the conditions experienced by students with VI and because he believed that the two methods would help to clarify or validate the findings drawn from individual and group interviews (Green, 2014:2). Through this methodological triangulation he hoped to address the issue of validity or trustworthiness of findings (Grut & Ingstad, 2005:6; Teddlie & Tashakkori, 2009:25; Yin, 2009:13).

#### **4.4 RESEARCH METHODS**

In most cases, research design involves specific research methods and procedures for implementing the processes of site and sample selection, data collection and data analysis or interpretation of findings (Teddlie & Tashakkori, 2009:21). The way each of these processes was

applied is discussed below. The next section describes the sampling procedures implemented in this research

#### **4.4.1 Sampling**

The typical way of selecting settings and participants in qualitative research is by means of purposive sampling (Maxwell, 2005:85; Teddlie & Tashakkori, 2009:25). The purposive sampling technique is found to be effective in qualitative case studies (Creswell, 2003:185; Maxwell, 2005:88). Purposive sampling is a strategy in which the researcher deliberately selects particular settings and participants in order to solicit the needed information to better understand the problem under investigation or to answer the research questions posed (Creswell, 2003:185; Maxwell, 2005:88). The researcher deliberately chose Addis Ababa University (AAU) which is the oldest and largest university in Ethiopia. In addition, AAU was established in 1950 and is located in the capital city of Ethiopia, it has a long-standing history of enrolling students with VI. Therefore, the researcher purposively selected this university as the research site of this study because it has more experience of dealing with students with VI than other universities in the country. In addition, most students with VI have recently chosen to study there. Furthermore, as there are no resources to speak of, the researcher focused on this university only.

In the 2012-2013 academic years, the university under study had approximately 16,000 undergraduate students, of which 203 were students with VI. Conversely, there were only 59 students with hearing impairment and 86 students with physical impairment enrolled at the same time. A total of about 80 lecturers were assigned to teach students with VI. Currently, there are 11 professionals who have doctoral degrees in the area of special needs education. As this is a qualitative study, the researcher drew participants from a number of sectors in the overall population of AAU, namely, students with VI, lecturers, decision-makers or managers of the university, including department heads, deans of faculties and student affairs, together with a panel of experts.

Qualitative researchers often use purposive sampling to select participants from the total population of a study (Teddlie & Tashakkori, 2009:22). Researchers frequently re-adjust the number and types of participants in the data collection process, depending on the adequacy of information gathered (Grut & Ingstad, 2005:9). They also tend to select participants who can provide sufficient and relevant information on the phenomenon under investigation (Grut &

Ingstad, 2005:9; Leedy & Ormrod, 2001:102). Grut and Ingstad (2005:9) go on to say that it is important to involve participants who have different experiences of the topic of the research, as well as the social and cultural settings in which it is conducted. The particular issues to be considered in choosing participants are their unique ability to be informative or privileged witnesses to the topic of the study, as well as their experience and qualifications in the subject area of the investigation (Maxwell, 2005:88). To this end, the researcher purposively included a group of students with VI, lecturers and managers in this study. In addition considering the experience and knowledge of the socio-cultural settings of the potential informants, the researcher took their personal characteristics such as level of education and gender into account in his selection of participants (Creswell, 2009:148; Grut & Ingstad, 2005:7, 9).

In particular, eight students with VI (four females and four males) were selected from five types or batches of admission for a group interview. After the group interview had been conducted, two students with VI (one female and one male) who had been more informative than the others were selected for individual interviews. The main reason for the choice of these students was to hear the voices of different students with different characteristics.

In addition to the students, two lecturers (one female and one male) and three decision-makers (one department head, one college/faculty dean and one dean of student affairs) were selected purposively or strategically to participate in individual interviews. The researcher selected the participants based on their personal characteristics and experiences of the research topic and questions.

As far as Delphi method is concerned, the sampling method often involves either purposive or criterion sampling rather than probability sampling techniques (Hasson, Keeney & McKenna, 2000:1010). Thus, the researcher found the purposive sampling technique more appropriate to select a relatively small number of participants or panel of experts to complete the Delphi questionnaires (McNicol & Nankivell, 2001:37). While the number of experts selected might seem small, this is in keeping with general practice as the sample number of Delphi participants can (2007:5). The reason for consulting experts was that it was felt that an expert with a PhD in special needs education would have sufficient knowledge of what makes inclusive education effective (Fraenkel & Wallen, 2006:4). For this reason the experts who were willing to participate had high post-graduate qualifications and extensive experience in special needs education or inclusive education and were selected using purposive sampling. The researcher needed to garner expert

opinions in order to develop an action plan for AAU to make its resources and services accessible to students with VI and to reduce group error (Okoli & Pawlowski, 2004:250; Skulmoski, Hartman & Krhan, 2007:10). To this end, the researcher purposively selected seven experts among 11 professionals who had PhDs in special needs education and involved them as respondents of the successive Delphi questionnaires.

#### **4.4.2 Data collection methods**

The data collection method is the other major element of research design in a qualitative approach. Data collection methods in qualitative research include observation, interviews, documents and/or audio visual materials (Creswell, 2003:185-186). As this study is qualitative in nature, the researcher used a set of open-ended interviews and semi-structured questionnaires for the case study and Delphi questionnaires. The basic rationale for applying those two methods in this study was to obtain adequate data that answered all the research questions and apply triangulation of data.

##### **4.4.2.1 Interviews**

Even though case study evidence can come from different sources, an interview is one of the most important data collection methods in qualitative case studies (Yin, 2009:106). Interviews using open-ended questions were used in this study to collect qualitative data from different respondents. The advantage of open-ended questions (those requiring a response of some length) is that questions of special interest can be pursued in-depth and with great confidence. These questions can lead to follow-up questions and explanations of items that are unclear (Fraenkel & Wallen, 2006:12). Therefore, the researcher developed a set of open-ended questions that he used while conducting interviews with participants in order to gather in-depth information from their real-life experiences.

As Grut and Ingstad (2005:7) indicate, an individual interview and a group interview (a focus group interview) can be applied to collect qualitative information either alone or in combination. If more details about the particular phenomenon (challenges in the case of this study) are desired, the researcher can conduct individual interviews (Fraenkel & Wallen, 2006:12). Accordingly, the researcher conducted a group interview with a group of eight students with VI using open-ended and semi-structured questions. In addition, individual interviews were conducted with different

samples including students with VI, lecturers, department heads and deans to gather in-depth qualitative data. Each interview was conducted face-to-face between the researcher and one respondent at a time with the help of open-ended questions consisting of key themes or words (Grut & Ingstad, 2005:6). The underlying reason for conducting an individual interview in person is that it allows respondents the freedom and confidence to express their opinions and views in their answers to each question.

#### **4.4.2.2 Semi-structured questionnaire**

Researchers who apply the Delphi method typically use a series of questionnaires which seek judgmental information from participants without having direct contact with them (Okoli & Pawlowski, 2004:16). In addition, researchers often use questionnaires because they are less expensive than interviews or observations (Gay & Airasian, 2003:282). The researcher can use open-ended and semi-structured questions in the questionnaires to collect qualitative data from selected experts (Grut & Ingstad, 2005:10). Having this in mind, the researcher developed semi-structured questionnaires that consisted of closed and open-ended questions to collect qualitative and categorical data from Delphi experts. The semi-structured design of the questionnaires was used because it allows for the collection of qualitative and categorical data about the phenomenon under investigation (viz. the practicality of support measures and needed resources) with least expense (Skulmoski, Hartman & Krahn, 2007:12). For these reasons the researcher developed two rounds of semi-structured questionnaires that were administered to Delphi experts in paper-pencil format in order to obtain their views and opinions on questions that addressed the primary as well as the last three secondary research questions of this study.

The researcher used unstructured interviews and semi-structured questionnaires in this study to obtain qualitative data on the existing challenges that students with VI experienced at AAU and to provide possible solutions that could be incorporated as support measures in an action or strategic plan for the university. In other words, the action plan was developed on the basis of the responses of the participants to individual and group interviews as well as the best practice standards identified above in the literature study. Moreover, the data obtained from a set of semi-structured questionnaires were used to reframe the draft action plan as per the importance and practicality of each support measure. The rationale for applying multiple data collection methods in this study was to realize triangulation of data, thereby ensuring the trustworthiness and credibility of the results of the study.

#### **4.4.3 Data collection processes**

The data collection processes of this study comprised two broad phases. In the first phase interviews were conducted with the selected samples of students with VI, lecturers who taught students with VI, as well as a group of managers comprising a department head, a faculty dean and an administrative dean of students. In the second phase questionnaires were administered to Delphi participants in two iterations.

In the first phase, the researcher conducted group interview, first with a group of eight students with VI in order to identify the overall challenges and barriers that they were experiencing at AAU. After identifying the major challenges, the researcher conducted individual interviews with two key informants selected from the participants of the group interview to glean in-depth information about the challenges and to garner solutions proposed by the participants. Following that, individual interviews were conducted with the lecturers and managers in order to identify additional challenges and solutions to the inclusion of students with VI in AAU.

All the interviews were conducted in a conversational and friendly atmosphere using Amharic language (the official language of the Federal Government) to ensure successful communication. The researcher used the official language of Ethiopia in the interviews because he acknowledged that interaction between the researcher and respondents is important in qualitative research and that the language skills of the researcher influence the gaining of confidence (Grut & Ingstad, 2005:7). In addition, the researcher used an open-ended interview guide comprising the main questions, themes and topics because he felt that too much structure might prevent him from discovering new and unforeseen information (Grut & Ingstad, 2005:9). As a result, the respondents have got more freedom to forward their views and opinions (Grut & Ingstad, 2005:7). All the interviews were audio-recorded with the consent of the interviewees and later transcribed to avoid into English and used as sources for the development of the Delphi questionnaires. The full transcriptions of all the interviews are attached as appendices (See Appendix 5, 6, 7 and 8).

In the second data collection phase, the researcher administered semi-structured Delphi questionnaires to gather qualitative and quantitative data from Delphi experts. As this study applied the Conventional Delphi method, the researcher designed a first-round questionnaire to be answered in paper-and-pencil format.

The researcher prepared the first-round questionnaire based on the information obtained from the review of literature and the interviews conducted with the participants. This questionnaire had a semi-structured design that included both closed and open-ended questions to obtain both quantitative and qualitative data for the development of a sound action plan for AAU. Thus, the questionnaire framed the support measures or possible solutions to the challenges that both students with VI and the staff experienced at AAU. The extent of the Delphi experts' priorities for each support measure or solution was indicated on the timeline provided. The experts also specified the resources needed for the implementation of the support measures at AAU. After the questionnaire had been completed and returned, the researcher summarized the responses and developed a second questionnaire that was administered to the same group of experts for a second iteration (Turoff & Linstone, 2002:5).

When the Delphi method is used the second-round questionnaire usually includes the questions and responses of all participants to guide the Delphi experts towards the intended goal (Skulmoski, Hartman & Krahn, 2007:10). Thus in subsequent iterations the respondent group is given at least a second opportunity to re-evaluate their original answers once they have examined the responses of the group (Turoff & Linstone, 2002:5). In particular, those participants who might have had different opinions from the majority of Delphi experts can be asked to reconsider their responses once they have studied the group responses and the feedback from the researcher (Green, 2014:3; Riggs, 1983:90). Sometimes additional iterations are necessary for final evaluation to occur as a result of the study of all previously gathered information (Turoff & Linstone, 2002:5-6). However, a double round Delphi study is considered to be sufficient in a wide variety of research areas (Skulmoski, Hartman & Krahn, 2007:5).

With this in mind the researcher refined and administered two rounds of the questionnaire. During this process three of the Delphi experts re-evaluated and changed their initial responses during the second round during which they evaluated various support measures and prioritized them according to their importance, desirability and feasibility (Okoli & Pawlowski, 2004:2; Wedley, 1977:7). This phase was found to be important as a high level of consensus was reached among the panel of experts on the components of the proposed action plan. In the light of the shared opinion of the experts, the researcher was able to develop an action plan for a support program that would advance the inclusive policies and practices of AAU in the following five years.

#### **4.4.4 Data analysis methods**

In qualitative research, researchers often apply the inductive approach to data analysis that refers particular or detailed data to the general or theory (Hatch, 2002:10; Neuman, 2007:89; Teddlie & Tashakkori, 2009:25). In the analysis of qualitative data a common strategy is to break down the transcribed data into smaller units that are rearranged to form categories in response to the research questions (Teddlie & Tashakkori, 2009:25). The researcher used an inductive approach in which he studied the transcribed texts in order to sort the data obtained during the interviews. These data were then coded and categorized into themes (Creswell, 2003:132). The themes were then interpreted inductively and broad patterns were identified (Creswell, 2003:133; Punch, 2000:61). This inductive approach to analysing the data was applied to data gathered from the interviews as well as the Delphi questionnaires. Finally, themes were used to develop an action plan to present to decision-makers at AAU

##### **4.4.4.1 Data analysis process**

As mentioned above every part of the interviewing processes was audio-recorded and later transcribed. The researcher used the transcripts of all the interviews as sources of qualitative data in this study. In qualitative research, responses of different interviewees can be presented person-by-person in light of the issues or questions formulated in the study (Cohen, Manion & Morrison, 2000:86). In addition, the researcher can process the data step-by-step to find answers to the research questions. According to Creswell (2003:191-195), qualitative researchers use five basic steps in the process of data analysis and interpretation. The first step is to organize and prepare the data for analysis by transcribing interviews and sorting the responses into different types based on the sources of information. The second step is to read through all the data and to write notes in the margins to present their general meaning or to record the researcher's impressions. The third step is to generate categories of information based on the sorted text, and notes in margins and to label the categories with descriptive terms to generate a list of topics and sub-topics for the data analysis. The fourth step involves generating a detailed description of the categories or themes to provide information about participants and events in a setting. In qualitative case studies, themes are analysed for each participant case and across different cases. The final step is to interpret and compare the main findings drawn from different groups of informants in the light of the research questions formulated in the beginning (Creswell, 2009:167).



Comparisons of findings can also be made with the findings identified from the review of literature and extant theories (Creswell, 2003:195; Creswell, 2009:167).

All the steps mentioned above were applied in this study since the researcher found them to be an appropriate means of presenting and analysing the qualitative data obtained from the group and individual interviews. The researcher followed the steps to construct categories and sub-categories and themes from the transcriptions of the interviews. All the data from the interviews were presented and interpreted under categories or themes that were devised in order to answer the first three sub-questions of this study. In this process comparisons of empirical findings were made by contrasting the responses of students with VI, their lecturers and senior managers at AAU. The views of interviewees were also contrasted with the findings from the literature study. The main reason for making such comparisons was to triangulate the data from different sources to maintain the trustworthiness or validity of the findings of this research.

As one of the data gathering tools in this qualitative design, the researcher used a set of semi-structured Delphi questionnaires for two rounds to obtain nominal or categorical data related to the primary as well as the second, third and fourth secondary research questions of this study. In the data presentation and analysis of a Delphi questionnaire such as the one used in this research, the type of scales used to measure the ordinal or nominal data should be categorical scales, including yes/no, and rank from highest to lowest importance (Creswell, 2009:150). Using statistical measures, such as standard deviation, are not necessary in the analysis of the ordinal or nominal data collected through a Delphi questionnaire (Hasson, Keeney & McKenna, 2000:1012).

Hasson, Keeney and McKenna (2000:1012) maintain that the data collected from the initial Delphi questionnaire should be judged by the participants in terms of their quality or in conjunction with a literature review. Having this in mind, the researcher developed the first-round Delphi questionnaire based on the findings drawn from the responses of interviewees and the literature review. Since the Delphi questionnaire was designed to obtain categorical or nominal data about the implementation time of each support measure, the researcher ranked the opinions of experts according to their importance and practicality. Thus, the frequency of the experts' responses regarding the implementation time were grouped together using an ordinal scale (e.g., the implementation timeline from 1<sup>st</sup> to 5<sup>th</sup> year index) based on their urgency or importance and practicality in the inclusive education of students with VI at AAU. In addition, the responses of the

Delphi experts about the needed resources were categorized by listing the types of resource against each support measure. The qualitative or categorical data obtained from first-round questionnaire were presented by grouping similar support measures together and ranking them in accordance with their priority levels and feasibility. Then, the whole report was returned to the Delphi experts as a second-round questionnaire in order to re-evaluate the relative urgency and importance of each support item.

The researcher reorganized the items of the first-round questionnaire by incorporating the responses or opinions of participants as feedback and then administered it to the Delphi experts for the second time so that they could re-evaluate their previous responses and produce considerable consensus of opinion on the implementation time of each support measure. The responses of the second-round were analysed to show the changes in the participants' opinions after they had obtained feedback from the first round. The responses of Delphi participants to the second-round questionnaire together with their previous responses were presented in a table and analysed against the items/support measures and sorted into a five-year timeline in order to show whether a considerable consensus had been reached among panel experts. Finally, the responses of the second-round questionnaire were summarized and reported in the form of an action plan for AAU to be implemented over the next five years

#### **4.4.4.2 Drawing conclusions**

Qualitative researchers make considerable use of inductive reasoning to draw conclusions from the findings of their studies (Leedy & Ormrod, 2001:103; Neuman, 2007:44). To this effect the researcher inductively developed a set of categories, patterns and broad themes from empirical data (Creswell, 2007:38). The researcher then inductively drew conclusions from the major findings in the answer to the main and secondary research questions of this study. The researcher then used the results of the two rounds of Delphi questionnaires together with the results of interviews in order to draw conclusions. In addition, the researcher used the findings from the literature study as a template with which to compare the empirical results of this study (Creswell, 2003:30; Neuman, 2007:89). The main reason for making such comparisons was to ensure the trustworthiness and credibility of the findings of this study (Gay, Mills & Airasian, 2006:90). Ultimately, it is hoped that this study will contribute to the body of knowledge and previously developed theories and shared best practices in the area of inclusive education. In so doing it will

add insights into the unique challenges that students with VI face and suggest remedial actions to be taken at AAU.

#### **4.4.5 Measures to ensure the trustworthiness of the research**

As the researcher of this study has been worked as an instructor in the area of special needs education for years, his exposure on inclusive practices would lead to a bias in favour students with VI. The researcher, therefore, employed multiple data sources and data collection strategies in order to avoid the problem of reporting biased data (Creswell, 2003:184) in this study. In addition, the use of one method alone is not usually regarded as being adequate to ensure trustworthiness in qualitative research (validity in quantitative research) (McNicol & Nankivell, 2001:39). Instead, trustworthiness and credibility (internal validity in quantitative research) can be addressed in qualitative research through the implementation of multiple designs and techniques as well as multiple data sources and collection methods in order to collect sufficient or accurate data (McNicol & Nankivell, 2001:39; Teddlie & Tashakkori, 2009:26). As a result, this study used multiple methods, including a case study and Delphi type survey, as well as interviews and questionnaires in order to achieve methodological triangulation (Yin, 2009:13) and the trustworthiness of the results.

In brief, the researcher reviewed prior studies to identify the challenges and their possible solutions from literature. The researcher then used the information from the literature review to determine the areas of focus when he developed the interview protocols and Delphi questionnaires. A set of interviews (individual and group interviews) were conducted with various groups of participants in order to determine the challenges that students with VI face in the particular context of AAU. The researcher also used the interviews to identify possible solutions from participants' perspectives. Finally, the Delphi questionnaires were used to determine probable support measures and develop an operational plan which could be implemented at AAU over a period of time. The researcher also used the literature study as an additional source to share international best practices for the development of the action plan and as a template for comparing the findings of this study with that of other research. Since the final action plan strives to advance the inclusive policies and practices of the university under study, the changes that will be implemented may motivate other similar universities to apply the action plan to their own situations. The intention behind the creation of the action plan is to maintain transferability

(external validity in quantitative research) of the findings of this study (Teddle & Tashakkori, 2009:26).

#### **4.4.6 Ethical measures**

In this study the researcher considered some of the ethical issues set out by the American Educational Research Association and American Psychological Association based on the nature of the study and its participants. Therefore, the researcher maintained the following general ethical measures throughout the study

- Clarifying the nature and purpose of the study to the participants and legally authorized individuals and obtain their informed consent and permission that provide access to study the participants in the site selected;
- Informing the participants that their responses of interviews and questionnaires will be kept confidentially and used only for research purposes;
- Obtaining the permission or consent of the participants orally before using any kind of data collection instrument and informing them that they can withdraw at any time when needed; and
- Changing the names of the respondents and use aliases or pseudonyms while organizing the data to preserve anonymity of participants or to protect them from any kind of harmful actions (Bordens & Abbott, 2002:177).

Taking the above ethical measures into account, the researcher first requested the consent and permission of AAU to undertake this study. A formal written letter of cooperation from the UNISA Regional Learning Centre in Ethiopia was submitted to the university. As a result, the researcher obtained a letter of permission from the vice-president for administration and student services of AAU in order to have access to the study site and participants. Since the letter clarified the title and purpose of the study and ensured the confidentiality and anonymity of participants, the researcher also gave it to the participants before the data collection processes took place. In addition, the researcher orally informed the participants about the data collection methods he was going to use, how their responses would be used, and how they would benefit from the study. They were also reminded of their right to be anonymous, not to answer particular questions, and to withdraw at any time (Grut & Ingstad, 2005:8; Neuman, 2007:47). Above all, all participants voluntarily agreed to participate in this study and gave their consent by signing the consent form

prepared by the researcher. Finally, the researcher achieved anonymity of the participants by using codes instead of the real names of participants and the university under study in the final report of this research.

#### **4.5 CONCLUSION**

This chapter presented the broad paradigms and associated approaches that informed the overall design of this study. The chapter also highlighted the research methods and procedures used for implementing the processes of site and sample selection, data collection, and data analysis and the interpretation of findings in this study. In addition, the chapter incorporated the measures for ensuring the trustworthiness of the findings as well as the ethical measures that were taken to protect the participants from any harm.

The next chapter focuses on the analysis and interpretation of data collected from interviews with students with VI, lecturers and senior managers who were selected as participants for the qualitative case study of this study.

## **CHAPTER 5**

### **ANALYSIS AND INTERPRETATION OF DATA FROM INTERVIEWS**

#### **5.1 INTRODUCTION**

The purpose of this chapter is to represent and interpret the data obtained from various interviewees in this study. As the study is qualitative in nature, the responses of selected interviewees are presented person-by-person in the light of the research questions posed in Chapter 1. In particular, the raw data obtained from the different groups of interviewees were analysed in order to answer the first sub-question fully and the second and third sub-questions partially.

#### **5.2 RESEARCH QUESTIONS**

The secondary research questions that were answered through the data obtained from the interviews are the following:

- 1) What are the challenges that students with VI face at AAU?
- 2) What resources (human, physical and financial) are necessary to provide effective support to students with VI?
- 3) What solutions are available for AAU to overcome the challenges or barriers that students with VI face?

The data obtained from interviewees were categorized and analysed in order to identify the existing challenges or barriers that students with VI face at AAU and their possible solutions together with the necessary resources for supporting the students.

#### **5.3 INTERVIEWS**

As indicated in Chapter 4, the researcher first conducted a group interview with eight students with VI in order to collect qualitative data. Secondly, individual interviews were conducted with two of the group participants whom the researcher identified as potential informants for the study with the purpose of exploring detailed information. Finally, individual interviews were conducted with two lecturers and three senior managers. After conducting each category of interviews, the

researcher transcribed the recorded responses of each interviewee. Eventually, the researcher represented all the data by sorting them into four separate tables representing four homogeneous groups. The names of the participants were substituted with codes in order to meet the ethical principles stated in Chapter 4. The researcher used both the group and individual codes for the interviewees when representing the raw data in this chapter as well as in the appendices. Thus:

- The group interview participants are indicated as ‘Group Interview (GI) Participant 1, 2, 3, 4, 5, 6, 7, and 8’;
- Individual interviews with two selected students with VI as indicated as ‘Student Interview (SI) Participant 1 and 2’;
- Individual interviews with lecturers are coded as ‘Lecturer Interview (LI) Participant 1 and 2’;
- Individual interviews with senior managers are coded as ‘Senior Manager Interview (SMI) Participant 1, 2, and 3’.

The list of participants and their educational status is presented below:

**TABLE 5.1: LIST OF PARTICIPANTS**

<b>Participants’ Group</b>	<b>Ser. No.</b>	<b>Code</b>	<b>Sex</b>	<b>Department</b>	<b>Batch</b>
Student participants in group interview	1	Group Interview (GI) Participant 1	M	Social Work	1 <sup>st</sup> year
	2	GI Participant 2	F	Social Work	4 <sup>th</sup> year
	3	GI Participant 3	M	Law	5 <sup>th</sup> year
	4	GI Participant 4	M	Social Work	3 <sup>rd</sup> year
	5	GI Participant 5	F	Amharic Language	2 <sup>nd</sup> year
	6	GI Participant 6	F	Social Work	3 <sup>rd</sup> year
	7	GI Participant 7	M	Social Work	3 <sup>rd</sup> year
	8	GI Participant 8	F	Sociology	2 <sup>nd</sup> year
Student participants in individual interviews	1	Student Interview (SI) Participant 1	M	Law	5 <sup>th</sup> year
	2	SI Participant 2	F	Social Work	4 <sup>th</sup> year

Lecturer participants in individual interviews	1	Lecturer Interview (LI) Participant 1	F	Amharic Language and Folklore	PhD
	2	LI Participant 2	M	English Language and Literature	MA
Senior manager participants in individual interviews	1	Senior Manager Interview (SMI) Participant 1	M	Department Head	MA
	2	SMI Participant 2	M	Faculty Dean	PhD
	3	SMI Participant 3	M	Dean of Students	PhD

For example, the responses of students with VI in the group interview are presented in a table and included in this study as Appendix 5. Similarly, the responses of the two students with VI who participated in individual interviews are presented as Appendix 6. The responses of two lecturers and three senior managers are presented consecutively as Appendix 7 and 8.

In accordance with the steps of the process of presenting qualitative data (see Chapter 4), the researcher sorted the overall meanings and impressions from the transcriptions of all interviews by creating codes in the margins using numbers, letters of the alphabet and words. The researcher then generated categories of information including topics and sub-topics based on the sorted text and the codes given in the margins of the interview scripts to facilitate the data presentation and analysis. The categories or themes constructed under a separate section or heading were considered as broad findings of this study. This was done manually by the researcher since he found it difficult to get the computer software to do so. Subsequently, the researcher represented the raw data and interpreted the empirical evidence obtained from each interviewee and groups of informants in line with the main and sub-themes generated under each research question of this study. Comparisons of findings were made while interpreting the data obtained from individual interviewees or group of interviewees. In addition, the common views of interviewees were contrasted with the prior findings obtained from the literature study. The main reason for making such comparisons was to triangulate the data from different sources so as to maintain the trustworthiness or validity of the findings from this research.

The researcher followed each of the steps mentioned above when dealing with the representation and interpretation of all the data obtained from respondents of the group and individual interviews. The researcher selectively presented the responses of interviewees by quoting them directly and placing them in italics and in indented spaces under the topics or themes generated in answer to



the research sub-questions of this study. Then the quotations were described by the researcher to show the common and opposing responses from various interviews. The data analysis process also integrated the description of data gathered from interviewees with the literature reviewed in Chapter 2 and 3 of this study in order to identify contradictions and agreements between them. With this in mind, the researcher first represented and interpreted the data obtained from various interviewees about the challenges that students with VI face at AAU in order to answer the first secondary question of this study.

#### **5.4 CHALLENGES THAT STUDENTS WITH VISUAL IMPAIRMENT FACE AT ADDIS ABABA UNIVERSITY (AAU)**

As it was mentioned in Chapter 1, the first secondary or sub-question of this study is: ‘What are the challenges that students with VI face at AAU?’. This research question led the researcher to explore the challenges that students with VI face when learning and living in the particular context of AAU. This question was generally addressed through the literature study in Chapter 2 and 3. The literature review found that there are many documents and theories that discuss the sources of challenges faced by disabled people. The 1993 UN Convention, the Salamanca Frameworks, the Ethiopian Educational Policy and Special Needs Education Strategy, the Social Model of Disability and associated models and theories, including the Mutual Adjustment model, critical disability theory and Vygotsky’s theory of learning, all acknowledge that disabling and unresponsive physical, political, social and cultural environments can be the source of challenges for inclusive learning of visually impaired students at all levels of education. The responses of interviewees in this study generally indicated that the existing physical, political and social circumstances of AAU were the source of various obstacles or challenges faced by students with VI in terms of their inclusive learning and social interactions. One of the most significant challenges that made inclusive higher education very difficult for students with VI at AAU seems to be the absence of clear and enabling policy.

##### **5.4.1 Lack of clear and enabling policy**

As indicated in Chapter 3, in higher education institutions of several developing countries there seems to be a lack of clear and enabling policies for the inclusion of students with VI. This also seems to be the case at AAU because the majority of interviewees in this study claimed that the inclusion of students with VI at the university was adversely affected by the absence of clear and

enabling policy. In particular the following remarks on the absence of clear and enabling policy frameworks that address the rights and equal opportunities of students with VI were made by participants:

*In general, there are no suitable rules and regulations to students with VI in Addis Ababa University (AAU) (Group Interview/GI Participant 1).*  
*I cannot say there is a policy or legislation in the university that ascertain the rights and equal beneficiaries of the students with VI. ...there is nothing that benefits us and stands for our rights. ....there is no law or system that is legally documented and implemented so as to respect the rights of students with VI.*  
*... I think that there is no a legal document that ascertain our benefits even in the disability centre (Student Interview/SI Participant 2).*  
*... it is difficult for me to say there is a clear policy or law in AAU which enables students with VI 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 university provides, they do it not because it is our legal right but because they do consider it as a charity (SI Participant 1).*  
*There are not any special rules and regulations that are issued for students with VI at the department, faculty, and university level.... Although it is difficult to say there is a clear policy and legislation that confirms the rights of students with VI, we just provide them the resources that we give for the sighted students in our department (Senior Manager Interview/SMI Participant 1).*  
*... What I want to say is that it is difficult to say that there is a policy or legislation in the university that ensures the rights and equal benefits of students with VI. However, there is something that is done for students with VI in the university (SMI Participant 2).*  
*... Especially, as there is no a special rule for students with VI, there is a trend to treat them with the rules and regulations issued for all students in general (SMI Participant 3).*  
*I do not know the disability-related theoretical frameworks, UN conventions and our country's rules and regulation. ... I do not have any information whether there is any legal base in the university's legislation or policy concerning the inclusion of students with VI. I have never seen (Lecturer Interview/LI Participant 1).*  
*Since I along with my colleagues do not know anything about what is included in the conventions, rules and regulations as well as what should be done for students with VI, there is no special support that we did for them. ...*  
*Nevertheless, as we feel humanity and we believe that students with VI should learn, we teach them together with the sighted ones (LI participant 2).*

As indicated in the above statements, the majority of interviewees from all groups claimed that AAU lacks a clear and enabling policy or legislation to ensure the rights and equal opportunities

of students with VI. In addition, most respondents from the student and lecturer groups reflected that they were not informed about the rights of students with VI in the university's rules and regulations. On the other hand, all of the participants from the management group responded that there were indeed appropriate policies at the university and that these were included in the general rules and regulations issued to all students. Other than this, there are no special guidelines for ensuring the rights of students with VI at the university. It is evident that there is no clear and enabling policy or legislation to ensure the rights and equal opportunities of students with VI at AAU. Unfortunately the university seems to provide the support as a charity rather than as the legal right of students with VI.

In general, most of the respondents from all the groups did not know about the contents of the university policy. While they had observed that some support had been put in place for students with VI they were not aware of any effort from the university to familiarize them with the existing legislation.

Although it was stated in the university legislation that AAU would establish an office to devise and implement mechanisms to ensure equal opportunities and fair treatment of students with VI, different respondents questioned the practicality of this legislative provision. In this regard, the following comments were made by various respondents:

*... Nothing has been informed to us whether that legislation has given attention especially to the students with VI or not. Even if there is something in it, we saw nothing practically. There is nothing special (SI Participant 1).*

*Although there is legislation which gives attention to the rights and equal opportunities of students with VI, it is impractical. No affirmative action is taken for us. What the university is doing for students with VI is not different from the sighted ones (GI Participant 2).*

*... The other thing is that the top management bodies of the university 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 (GI Participant 4).*

*The management is treating us like the sighted students and does not respect our rights.*

*...The other problem is that administrators' lack of knowledge about students with VI. They treat and consider us in the same way as to the sighted students (GI Participant 7).*

*... As there is not any rule sent from the Ministry of Education which shows that their package is less than that of their sighted counterparts, they are not treated in a special way. I do not have any information that shows*

*something special should be done to the students with VI (SMI Participant 3).*

*... Lecturers do not know what is there in the legislation unless they read about it. Lecturers are not made to know what they should do for students with VI through a formal communication (SMI Participant 1).*

*I could have said the university's legislation has created a problem on inclusive education of students with VI if I had known the extent of the situation in the university policy or legislation (SMI Participant 2).*

As can be seen from the above responses most of the participants thought that the university did not inform students with VI and their lecturers about the content of the existing legislation, especially articles focusing on the inclusion of students with VI. As most participants from the student group noted, the existing university legislation did not pay attention to the special needs of students with VI. No affirmative action was taken for students with VI as a result of any legislation. The few guidelines that were in the legislation were impractical. In general, student participants felt that the university legislation actually caused practical problems in their learning. Participants from student and manager groups agreed that such problems were created because of an absence of clear rules and regulations in the university legislation. In fact, student participants claimed that the university community failed to respond in accordance with the regulations. The students even doubted the existence of institutional legislation at AAU since they could not see it in effect.

Students with VI were not consulted when the university developed and revised its senate legislation. For instance, one student participant explained the situation as follows:

*Our participation has never been asked on the legislation that is prepared. It has never been practiced in the university. We know that we should give our suggestions as to the UN conventions as well as the experience of the universities abroad. However, we were never asked to forward our suggestions before and after the preparation of the university's legislation. No orientation was given for students with VI about our rights and its legal background. ... As nothing was put into practice, nobody knew about the legislation of AAU (SI Participant 1).*

The above statement suggests that the university did not provide sufficient information for students with VI concerning the contents of the legislation devised to promote their rights. As a result, students with VI did not know about the theoretical or practical intentions of AAU 's legislation. In addition students with VI were not included when the university developed and revised its policy, and as a result their concerns were not considered. According to the principles

of theories and the models of disability, including critical disability theory and the mutual adjustment model, it is vital for students with VI to be involved in the development of inclusive policy (see 2.2.1.3 and 2.2.1.5).

The university policy or legislation did not incorporate the basic theoretical and legal frameworks set out internationally and nationally to ensure the application of inclusive policies and practices. When asked to what extent the university policy or legislation incorporated the international and national guidelines and theoretical principles that inform the full participation and inclusion of students with VI, some respondents described the existing circumstances at AAU as follows:

*...I do not know the disability-related theoretical frameworks, UN conventions and our country's rules and regulation. ...I get students with VI along with sighted students assigned in a class where I teach. When I get both kinds of students in my class, I just teach them together as to my preparation.*

*... I did nothing to help them other than worrying myself. Although I worry about them, I do not have any idea how to help them. Therefore, I have not done anything to support them by understanding the UN conventions and theoretical principles other than teaching them together with the sighted students by allowing them to learn by recording my voice. I personally do not know what I can do for students with VI. They come together and they learn together. I do not know any other alternative other than doing this. This is a problem to me (LI participant 1). I as well as my other colleagues have no information about how we should entertain students with VI in inclusive education based on the international agreements, national policies, and theoretical principles. For this reason, I do nothing different for my students with VI other than teaching them in the same way as to the sighted students (LI participant 2).*

*I do not know whether the above mentioned international agreements and the national rules and regulations are incorporated in the transformational policy and senate legislation of AAU. What I know is the fact that there is something mentioned not directly for students with VI but for those who have physical impairment in the university's senate legislation. There are some articles though it is a bit difficult for me to mention. It is also difficult to say that all these articles are known by those responsible bodies at each level.*

*It has not been even tried to let lecturers be acquainted with the articles by the university (SMI Participant 1).*

*This is a difficult question. It is the disability centre that knows in detail whether or not the aforementioned international agreements and national laws are included in the university legislation. As it is not directly related to my duty, I do not have anything to say about it (SMI Participant 3).*

As seen in the statements above, one manager and all the participant lecturers confirmed that they did not know whether or not the international and national legal frameworks as well as theoretical principles on the inclusion of students with VI were included in AAU's policy or legislation. In particular it seems as if lecturing staff did not know about and were not even aware of the UN conventions, national laws, or the theoretical principles that should inform the inclusive policies and practices of the university. They did not seem to differentiate between students with VI and sighted students in their teaching. Since they did not have any idea of the aforementioned legal frameworks and theoretical principles, they did not do anything to support students with VI other than teach them in the same way as they taught sighted students. On the other hand, one respondent from the management group argued that the university policy could not be different from the international and national laws regarding people with disability and used the establishment of the disability centre as an example of AAU's compliance. The other manager participant was not sure whether the university policy included the international and national laws. The participant thought that it was not within the ambit of his duties and suggested that the question be answered by the disability centre. As discussed in Chapter 3 this is contrary to the legal frameworks and theoretical principles that require AAU to go beyond the physical establishment of a disability centre. For instance, it was mentioned in Chapter 2 that it is incumbent on UN member countries, including Ethiopia, and institutions to recognize and implement international conventions on the rights and equal opportunities of people with impairments.

In general, most respondents from all the groups acknowledged the absence of clear and enabling policy as being one of the challenges preventing the inclusive education of students with VI at AAU. This is supported by the literature study, reported in Chapter 3, where it is mentioned that either the absence of binding policies or the inability to implement existing policies is becoming a common challenge for higher education institutions in developing countries. In the same way, most participants in this study stated that AAU did not have clear, binding and enabling policies or legislation to access support that students with VI needed during their studies.

Furthermore, most respondents from all the groups showed their great concern about the practicality of the policy framework, even though students with VI did not have access to any substantial special services from the university. This is in contrast with the finding reported in Chapter 2 that higher education institutions, including AAU, had the responsibility to publicize their policies widely and make them accessible in a range of formats that would suit students with VI.

Surprisingly, the majority of respondents, including senior managers, indicated that they did not know what was stated in international and national legal documents or the university policy regarding the inclusive education of students with VI. This is indicative of the challenging circumstances that exist at AAU. Furthermore the university had not engaged students with VI when it prepared and revised its legislation. As a result they could not access the changes made or put forward their concerns on the revision. The respondents also had a critical concern about the paradigms and theories which influenced the attitudes and actions of AAU 's staff toward students with VI and the services they needed.

#### **5.4.2 The medical model of disability**

It was apparent from the responses of different interviewees that there were challenges that arose from the theoretical frameworks and models of disability on which the inclusion of students with VI was based. The participants from the student and lecturer groups described the situation at AAU as follows:

*Regarding the theoretical perception of the university is concerned nothing special arrangement is done to us. The university admits the students with VI as well as other students equally. ... The university admits us when there is registration just like the other students. They also give us dormitories in the building where our sighted peers placed and they expect to let us attend the lesson in the classroom where we are assigned (SI Participant 2).*

*As to our inclusive education is concerned, there is something vague about the model on which the perception of the university relied on. For instance, when we choose our field of study, they sometimes accept us. After we are assigned, however, they do nothing special to us other than telling us to use what is available. Besides, once they accept in the field we chose, they do not make adjustments on the teaching learning process as to our needs. They simply consider that the problem is due to our visual impairment. Therefore, as there is a feeling in the university that students with VI should decide the fact that whether or not they can learn in a situation as it is, it has created a problem on us (SI Participant 1).*

*The staff members of the university have shortage of knowledge regarding the theoretical implementation of medical or social model of disability in the university.... For example, it is possible to implement at the college and high school level as the students with VI are considered capable of doing anything. However, what I want to say is it is difficult to implement at AAU where the university community has negative attitudes towards students with VI and think that we are incapable of doing anything (GI Participant 3).*

*... Inclusive education is not working in this university because although we know that we are not less than with our sighted friends, most people*

*in the community do not believe in this. Even when I get a good result, there are some people who tend to ask how I got that good result because of my impairment/blindness (GI Participant 2)..*

*.. They do not do what they should do because they think that students with VI should use what is available, not something special for them. We are made not to take courses related to number as they consider that we didn't take mathematical subjects when we were in high schools. Based on this, they think that we are incapable (GI Participant 1).*

*There are some teachers even in the university who do not give attention to our special needs. For instance, one day a teacher gave us an assignment and I asked him which resources I should refer, but he simply said that you can drop the course (GI Participant 8).*

*Since I along with my colleagues do not know what should be done for students with VI, there is no special support that we did for them. The problem here is that we lack training on the legal and theoretical frameworks. For example, I do not get any special training. As a result, I do not know how I should teach students with VI to make them satisfied (LI Participant 2).*

*So as to implement the UN conventions and theoretical principles, lecturers should know them well. Since I don't know them, I am not teaching my students with VI thinking about the rules and frameworks. Hence, one of the problems is the failure to know and implement them.... I cannot also say the necessary facilities are fulfilled to them (LI Participant 1).*

As discussed in Chapter 2, the medical model tries to explain educational difficulties in terms of students' characteristics without taking the physical, social and political contexts into consideration. As a result students with impairments are expected to cope with existing situations rather than make adjustments to the wider environment. Similarly, the above statements indicate that AAU 's staff considered educational problems in terms of students with VI deficits and did not consider the wider physical, political, economic, and socio-cultural environment. They expected students with VI to cope with the existing situation and did not make adjustments to the wider environment. Therefore, it can be accepted that the existing understanding and reactions of the university staff were informed by the philosophy of the medical model of disability. The main reason for using the explanation of the medical model of disability is that the university staff did not seem to be aware of the most appropriate theoretical frameworks or models. The problem here is probably that they had not been orientated to or trained on the theoretical frameworks. As the staff were not aware of how to apply the principles of the social model of disability and associated theories, they felt the cause of the students' problem was their visual impairment or incapability and not the fact that they needed to make changes to accommodate students with VI. The staff of AAU also had negative attitudes towards the inclusion of students with VI. It can be surmised that this is the result of their incorrect theoretical assumptions. Their perceptions and



reactions that were framed by the medical model of disability also affected decisions on the placement of students with VI in alternative departments.

### **5.4.3 Placement of choice**

As mentioned in Chapter 3, it is the students' choice that determines the areas of study in higher education institutions since students with VI can access and succeed in several departments. This evidence has been supported by the international conventions and theoretical principles and models indicated in Chapter 2. However, there are different challenges in AAU that affect the placement of students with VI according to their choice. In this regard, the following notes were made by participants from students and management groups:

*I was assigned in the department by my 18th choice (GI Participant 1).*  
*I was assigned in social work department by my first choice. When we chose departments, 17 students with VI chose social work as our first choice. However, out of the 17, the department accepted only 4 of us by taking our results into account....Except considering our choice, the university has done nothing different from the sighted students (GI participant 2).*  
*...As far as I know, assigning students into departments is done by the office of the registrar based on their results. We just accept what is assigned to us. When the students are assigned into departments, we are not made to have the information (SMI Participant 1).*

The international and national laws as well as theoretical frameworks discussed in Chapter 2 favour the placement of students with VI into departments based on their preference. However, the inclusive practices of AAU have shown that the registrar's office placed students with VI into departments in the same way as their sighted counterparts based on their results without considering their special needs. Even though most student participants stated that they were assigned into departments of their choice according to their high results, the practice of AAU inconvenienced students with VI. It was evident from the responses of student and management participating groups that most students with VI were placed in departments according to their results without considering their first choices.

Furthermore, some respondents maintained that students with VI were not allowed to join some departments of their choice even though they did have higher results. In this regard, the respondents disclosed the following problems and the reasons behind them:

One of the challenges that students with VI face when they choose the field of study is that we are given limited number of departments to join. When we asked the academic vice-president to let us join other fields of study other than the usual ones they replied that it was not allowed to us because of scarcity of materials. For instance, although there are some students who are students with VI and want to join fields, such as journalism, linguistics and music, they are not allowed. That is why we say our right to join vocational fields is limited (SI Participant 2).

In general, I know that we are not allowed to join some fields of study not by taking our result into account but simply by saying we are incapable. We are even not allowed to join some social science fields, including journalism, management, economics, etc. even if we want to study them. We are not allowed to join economics because they said that it has graphs and calculations which we cannot do (SI Participant 1).

...we were not allowed to join some of social science fields. The most irritating one is that we asked them to allow us learn music at Yared Music College as we have the ability to do so and there were others who got the chance before.

However, they didn't allow us saying that it is not convenient for students with VI. Their negative attitudes towards students with VI made us not to be assigned in that field. The problem on the side of the management is that they fear that if students with VI are assigned in music department, they will be asked to provide a lot of things. The main reason for this is their negative attitude towards us and they think that students with VI can't learn (GI Participant 3).

As to me, instead of teaching folklore course to students with VI with the present situation, it is better not to allow them to join the department. It is better not to assign students with VI in the department of folklore as there are a lot of things in it to study the culture that need to be seen by our own eyes (LI Participant 1).

... As we all know, there are some fields that are allowed and disallowed for students with VI when they choose departments. I also support not to allow them to be assigned in those fields that require them to see. We also know that they have been assigned in languages, law and history fields since past. When they are assigned and learn in these departments, they just listen what is spoken (lectured) and copy with Braille what is written. ... I have been teaching students with VI in this university for more than ten years. From my experience, I understand that students with VI are usually assigned in language department.

I, for example, taught 13 students with VI and seven sighted students last year. ...In my class the ratio was almost two students with VI to one sighted student. This year, I teach oral communication, research method and writing skills courses. The number of students with VI currently is 50% of the total number of students in the class. With this circumstance, it is challenging to me to teach students with VI. Since the courses I teach tend to focus on skills, it has become a burden for me to follow up what students with VI are doing (LI Participant 2).

Of the departments in our college, most of students with VI often choose to join Amharic language department and they are assigned there. Some of them choose English language department and they are assigned as

*to their choice. There is a challenge if they want to join journalism and linguistics departments. ... When we look at the choice of departments by students with VI, they are not assigned as they want or by their own choice.*

*This is done not because they have visual impairment but due to the nature of fields and their results (SMI Participant 2).*

*Students with VI could not be allowed to join music department because there might be some special skills required to join this field. ... I may not see it as a problem to refuse students with VI to join Journalism department even if they choose it because the field requires them to see and report about something (SMI Participant 3).*

As seen from the above quotations, the majority of respondents from all groups affirmed that the university allowed students with VI to join limited departments, mainly in the areas of social science and law. Of those areas of study, some fields, such as journalism, linguistics and music, are not open to students with VI although some of them want to join these fields. Interviewees from student, lecturing and manager groups also confirmed that students with VI were not allowed to join the departments of business and economics, natural and health sciences, or technological fields that did not specifically require students to be sighted. Respondents from all groups, including the university management group, believed that scarcity of resources, unwillingness of lecturers, and the incapacity of students with VI to follow courses featuring graphs, figures and calculations are some of the reasons why students with VI do not undertake studies in these fields. The most frustrating problem for student participants was the negative attitude that AAU's staff members have towards students with VI in fields such as linguistics, economics and music: they maintain that it is not convenient for these students to study in these fields. Student participants condemned the university for preventing them from joining the Department of Music as they have the same ability to study music as their sighted peers. Responses from students, lecturers and management participants similarly maintained that the university did not allow students with VI to study music and other fields because of their impairment. This is unacceptable trend when seen in line with findings from prior studies (see Chapter 2 and 3). Conversely, as one lecturing participant disclosed, limiting the number of departments that admit students with VI has become a burden for other departments such as languages and law which students with VI usually join. This problem is caused by the university's reluctance to recognise the right of students with VI to take courses in the fields of their choice.

The other factor that affected the placement of students with VI into different departments based on their choice was the absence of clear rules or admission criteria at university or department

level. In this regard, some participants from student, lecturer and management groups made the following remarks:

*I do not know exactly what the criteria are to assign students with VI in different fields of study after they are assigned in the university by the Ministry of Education... Although some students with VI chose some departments by their choice, for instance, music, they were not allowed to join saying that they were incapable. Nobody said the students do not fulfil the criteria (SI Participant 1).*

*No orientation was given on how we chose departments. No one gave us any information taking our problems into account. When we asked in which department we were assigned, we were informed to look at from a notice board. The registrar office workers were also unwilling to give answers for our questions. As there are a lot of students with VI in AAU, the workers are fed up*

*with us and become reluctant to support us (GI Participant 1).*

*When the university admits us for the first time, they provide us the written form to indicate the fields of study we want. We just fill in the form that is given with the help of our sighted friends. We just decide our field of study based on the information that is given for all students during orientation. No special orientation is given for students with VI alone (SI Participant 2).*

*The basic point to be assigned with our choice is the results of the higher education entrance exam. However, as they have lack of information about this, they disfavour me as well as the other students with VI. For instance, my choice was social work and our result was expected to be calculated out of 600 points while for those sighted students 700. The reason for this difference is that we were exempted from taking the examination in mathematics.... The problem is they don't know this, so that they said that my result is low compared to my sighted counterpart and cannot be assigned in social work. What people in the university consider is simply the total result without considering the subject that we didn't take (GI Participant 1).*

*... I do not know anything about the admission and assignment of students into departments except teaching those students who are assigned in my classroom.... What I know is the fact that our department accepts students with VI, but I do not know whether they are assigned by their own interest or not. I do not know whether there is such a thing in the university's regulation or not (LI Participant 1).*

*In general, I do not know if the university has policies and rules and regulations on how students with VI choose departments, and what kind of supports and resources should be provided to them (LI Participant 2).*

*I do not know whether there is a regulation or principle that states students with VI should be assigned by their choice or not (SMI Participant 2).*

As demonstrated in the above quotations, the selected participants from all groups indicated that they do not have clear knowledge about the regulations as well as the criteria being used to

determine the placement of students with VI regardless of the common practice in place. Student participants confirmed the absence of special provisions for assigning students with VI into different departments other than competing with the sighted counterparts according to their results in higher education entrance examinations. One student participant noted that the university miscalculated the results of students with VI in a way that was different from those of sighted students. The university simply used the total result without considering the subject (mathematics) that students with VI did not take in secondary school. As a result, their results were lower than those of the sighted students and they were denied their choice with regard to their field of study.

In addition to the absence of clear admission criteria, AAU did not apply flexible and supportive criteria when the placement of students with VI into departments took place. In this regard, most participants made the following comments:

*As long as the criterion for the choice of fields of study is concerned, we are expected to compete with our sighted peers on the basis of results in the National Secondary School Leaving Certificate Examination and Higher Education Preparatory/Entrance Examination. Accordingly, they announce the number of students they accept in each department. When we apply even to join the departments allowed to us, no priority is given to students with VI except using our results for the competition. ... In general, there is no special consideration in terms of criteria for placing students with VI into the common programs of study (SI Participant 2). ... I asked the university to allow me to transfer to another department, but I was not allowed to join another department due to the rules of the university. ...*

*In my view, the regulation of the university is rigid as far as assigning students in different departments is concerned (GI Participant 3).*

*There is no departmental involvement in the assignment of students into departments. It is the colleges' Deans that assign students with VI into different fields or departments. Other than using their academic results, they never prepared any special criteria for the selection of students. We never participate in deciding where the students with VI should be assigned or not.*

*I do not know whether they have a clear regulation or not, but there is a tradition to assign students with VI in some departments where they are believed capable of and vice versa (SMI Participant 1).*

*... They are assigned to us by the office of the registrar and the registrar assigned them based on their results in comparison with others. There is such kind of practice where we cannot consider the question of students with VI (SMI Participant 2).*

*There are some students with VI who came to us and complained that they are not assigned by their choice. It is difficult to manage this while there is no clear regulation to assign them into departments based on their first choice (SMI Participant 3).*

As it was stated earlier in the UN Standard Rules and theoretical frameworks in Chapter 2, students of higher education institutions may take college classes based on personal choices and preferences, therefore universities should be flexible about entry criteria and more supportive of applicants with impairments than their non-impaired peers. However, the above comments from the participants of student and manager groups commonly agreed that the placement regulation of the university is rigid as it was consistently relying on the results of students without giving special attention to students with VI. A number of interviewees from all groups similarly demonstrated that there were no flexible and supportive criteria at AAU for assigning students with VI into departments of their choice. As most student and management respondents illustrated, the absence of flexible and supportive regulations and criteria challenged the placement of students with VI into different departments based on their first choice.

Surprisingly, some participants, including senior managers, indicated that they did not know what regulations or criteria the university used to determine the placement of students with VI apart from the common practice in place. Departments and faculties were not involved when the placement decision of students with VI was made by the registrar's office. The office also made the placement of students with VI according to their results without informing them in advance. The absence of consultation with the students with VI by lecturers and department heads is a unique challenge in AAU. According to the principles of the mutual adjustment model (see Chapter 2), students with impairments should make a conscious or informed choice about their fields of study on the basis of the information provided by the university prior to applying for a particular field of study. Conversely, AAU did not engage in any prior consultation with students with VI about the criteria and available options to enable them to make informed decisions about their field of study. Furthermore, students with VI have a problem in getting admission-related information in alternative formats other than in writing. In brief, lack of prior information about fields of study together with the absence of clear and supportive admission criteria were the unique and critical challenges of students with VI that affect their placement into departments within the particular context of AAU.

#### 5.4.4 Lack of information in alternative formats

Not only admission-related information but also inaccessibility to general and academic information was a serious obstacle for students with VI to advance their education in AAU. As indicated in Chapter 3, students with VI experience critical challenges in several aspects of their higher education owing to the absence of reliable channels of information. Similarly, most of the student and management participants revealed that the failure of the university to provide information in alternative formats has affected the satisfactory inclusion of students with VI at AAU. Student participants described the situation at AAU as follows:

*The things that we use and the information that is transmitted to students with VI are not done through touchable or listening means in this university to let us know them. A call for participation for a meeting is sent to us through a notice. For this reason, we only participate if our sighted friends tell us so. We cannot sense the different pointers attached with the roads and buildings and we are not made to know about them through our information gathering mechanisms. There is no suitable situation to let us know the pointers except using our talents to identify. For example, we arrive at our dormitory by counting the steps, not through touching different symbols. We also never get the access to identify our dormitories and classrooms through tactile signs, except using our experience and means. For example, I prepare and use my own symbols to come from dining hall to my dormitory building. I also know how many stairs I should go up. Thus, we don't have any other posted tactile materials that enable us to get information. In the library, too, we read the books that are ready for sighted students although there are very few materials written in Braille. We use the books by asking some people to read for us (GI Participant 7).*

*The situation in the university compels us to be dependent on the sighted students. For example, as all buildings are almost the same, it is difficult to differentiate. There are a lot of obstacles on our ways in the university. These things are not only problematic but also cause harm to students with VI. Those poles or ditches on our way often create dangers to us because there is nothing that can help us identify them before we come near to them (GI Participant 1).*

*... where orientation is given to us is announced through writing so that we can use this opportunity if we are told by others. There was a day on which I miss an orientation because the venue for the orientation was not verbally told to us. If we do not have communication with sighted students, we can miss a lot of points. I think that a student with VI who does not have a sighted friend may face difficulties. All these happen because orientation was not given and we were not given another opportunity to get information. In general, when I look at the situation, the top management as well as the performers are not worried to change it. If I hadn't a sighted friend I*

wouldn't be successful. ...What we beg from our sighted friends is to tell us what they see, take us to the place we intended to go, etc. Leave alone this, no one tells us anything about examination program except for the program that is posted. ...Till now, it has never been tried to let us know the examination program either through Braille or any other listening mechanism (GI Participant 2).

Most of the time information reaches the students before admission, during admission and after admission by means of notices by writings. The information that is posted on a notice board is not made accessible to students with VI by means of audio material or Braille. Whenever there is information meant for us, it is posted on a notice board. Our sighted friends tell us or if we hear that information meant for us is posted, we ask them to read the information to us. This is how we get information. ...If we do not get anybody to tell us the information, we may miss the class or examination. This leads to students with VI missing make-up classes and examinations. We face great challenges in accessing information (SI Participant 1).

There is no situation in which we are made to access information through audio or Braille before and after the university admits us. We are required to get information in the visual way just like the sighted students (SI Participant 2).

We are in difficulty to identify curves as the paths don't have edges. ... The other thing is that there were some students with VI who missed exam because they didn't get any information about the exam schedule. It was really possible to send message through email about the exam day and time, but this was not tried. What made me surprised is that we know our final grade when others tell us by reading from a notice board. We were not given any chance to know our own results secretly (GI Participant 3).

... Lecturers in each department do not try to make notices accessible to students with VI through Braille or recorded material except letting them know in writing or posting on a notice board. We don't use such kind of technologies because sending messages to the students with VI demand affording money. As the university does not afford money or mobile card for lecturers or the department heads for such purposes, it cannot be practical. ...Especially, if they want to use our library, they may face a problem if they do not have helpers to read the materials. Besides, when we also post notices on a board, we do not let them know about them through Braille or orally. The examination schedule is also announced on a notice board. Since their classmates inform them, they get the information. There is not any regulation that made us use other possibilities to help students with VI (SMI Participant 1).

...we are trying to convey information to all students. There is not any kind of changes or improvements that are made to make information accessible to students with VI only. I think it will be good if we try to send the messages posted on a notice board to students with VI through text in a mobile phone or email. ... Of course, as texting the message may incur expenses, it might not be accepted by lecturers (SMI Participant 2).



All the above quotations are consistent with the general challenges identified earlier in Chapter 3. Thus, the responses from most student and manager participants commonly indicated that students with VI experienced a great challenge in accessing general and academic information in alternative formats when learning and living in AAU. The majority of participants from student and senior manager groups confirmed that students with VI have to access information in the same way as their sighted peers. The university did not often try to provide general, instructional and assessment-related information for students with VI in alternative formats, such as audio or Braille rather than posting this in writing. As a result, students with VI often have to ask sighted friends to read them or tell them the information disseminated in writing. If they do not get the help of sighted students to gain information, they miss examinations or lessons. In addition the absence of any tactile clues at the gates of dormitories and classrooms is a unique challenge for students with VI who have to identify the rooms by themselves.

Since the general and educational information is widely announced on notice boards or communicated in pamphlets, students with VI experience a huge challenge to cope with the inclusive setting and services at AAU. The absence of systematic channels of information that suit students with VI made their living and learning difficult at AAU. One participant from the manager group mentioned that the main reasons for not providing the information to students with VI in alternative formats are lack of binding rules and of financial support to pay the expenses incurred when lecturers need to use technology. As a result, lack of information in alternative formats is a serious challenge for students with VI in their life and education at AAU. The challenging problem that students with VI faced at AAU was not only the lack of reliable channels of information but also the absence of well-organized support structures within the university system.

#### **5.4.5 Lack of organized support structures**

As discussed in Chapter 3, lack of structured support systems is one of the crucial challenges that affect the full participation and inclusion of learners with impairments in all aspects of their higher education. The absence of well-organized support services is a serious challenge for the inclusive education of students with VI in AAU. In this regard, some student respondents made the following remarks:

*When we were in high schools, as teachers had positive attitude toward us, whenever we had difficulties, they used to help us. In this university, it is very difficult to say so because lecturers are not willing to support us and they don't have good attitude to us (GI Participant 5).*

*Regarding any special support, there is nothing special from the sighted students (SI Participant 2).*

*No support was given to us (GI Participant 2).*

*It is better to say that the support services that should be provided to the students with VI through inclusive education in the university are not available. For example, there is not a well-organized system of providing books in the library except for the self-initiation support by some librarians who tell us where the books are found. As far as a personal guide is concerned, only one student is allowed to have a personal assistant in the university. Other than this, no opportunity is given to hire a personal reader as well as peer-tutor. That student was allowed to have somebody as a guide because he has double impairments (visual and physical impairment). As we are not supplied with other alternatives other than using the books available for sighted students, I would like to say that it is one of the reasons for getting lower results in examinations. We don't have personal readers or peer-tutors as there is no budget to assign them. Budget is assigned only for exam readers. Although it is not sufficient, we have the access to read CD writing on computers that are available at the Kennedy Library (GI Participant 4).*

*Although inclusive education is a good system, it can't have an effective result if the university doesn't give the appropriate supportive services.... When we come to this university, no mobility training and orientation are given to us. ... The other problem is that we don't have anybody to read for us or peer-tutor is not assigned to us. We can't find readers by ourselves because no financial support is given to us. Regarding this, those universities, such as Hawse and Mekelle Universities that start such a kind of service recently are better than AAU. ...A lot of students with VI prefer AAU just because it is an experienced one, or rather for its name. I think others are practically better than it. We asked the top management to allow us budget to get peer-tutor four years ago. No response has been given to us up to now (GI Participant 3).*

The above quotations indicated that AAU lacks a well-organized informal and formal structure to supply appropriate support to students with VI. As the literature study (see Chapter 3) and responses from most student participants showed, the absence of support resulted in several social and educational challenges for students with VI at AAU. In this regard, student participants said that no special support for students with VI is available at this university compared with other universities in the country. For instance, there is no a well-organized system to provide students with VI with e-books in the library and the lecturers are not willing to provide educational materials in alternative formats like softcopies because of their negative attitude towards students with VI. The participants opposed the inclusive approach if the university did not provide students with VI with any supportive services such as mobility training and orientation and personal assistants. On

the other hand, there is no budget allocated by the university for hiring personal readers or peer tutors for students with VI at AAU. Several student participants commented that the current organizational structure of AAU makes it difficult for students with VI to be fully included in the various activities of the university owing to the absence of positive staff members and specialists. Not only the student participants, but also the respondents from lecturer and senior management groups indicated that the existing administrative structure of AAU does not provide proper support to students with VI and treats them like other sighted students. For instance, some respondents forwarded their views as follows:

*As to me, I do not have any problem as I treat students with VI in the same way as the others and I do not do anything different for them (SMI Participant 2).*

*What I know in my department is that students with VI are equally treated like others. Perhaps, unless it is different from lecturers to lecturers because of their willingness, students with VI are treated in the same way as to the sighted ones. All the administrative problems that face the sighted students are the problems of students with VI. Probably, if students with VI have no helpers, the situations around dormitories and roads can be challenging for them. They might also face a difficulty to find the classrooms easily and walk there if their classrooms are located upstairs (SMI Participant 1).*

*...For example, I order students to write on a certain issue during the writing skills course. It becomes difficult for me to assess their writing skills as there are some students with VI who cannot write with Braille and their number is large to allow them write by the help of the sighted students. In general, from the nature of my communication skills course, as there are some students with VI who cannot write when I ask them to write, they feel that I underestimate them. They also consider that we do not do any special support to them. At the same time, they also think that it is obligatory for us to give special support to them. Nevertheless, we cannot fulfil what they ask because no training is given to us (LI Participants 2).*

As described by lecturer and management participants, students with VI are treated in the same way as the sighted ones. They felt that all the administrative problems that face the sighted students are also the problems of students with VI. In addition, because students with VI have no helpers, moving around dormitories and on the roads can be challenging for them. They especially face difficulties in finding the classrooms easily. One lecturer participant in particular commented that those students with VI who cannot read and write Braille have difficulty learning. Lecturers cannot provide what the students need because no training in communicating in Braille is given to them. In the contrary, one respondent from the senior management group argued that

the university structure did not experience any problem with the education of students with VI because they got support from the disability centre established by the university. In fact, some student and manager participants showed that the centre has limitations in supporting students with VI.

Some participants from students and senior management groups expressed their views on the organization and quality of the disability centre as follows:

*...The disability centre which is organized by the university has its own experts that can support students with VI when they face problems.... I cannot say whether they are giving adequate support or not. However, when I observe from the existing situation, I cannot say a significant job is done in the centre. Thus, to fill the gap in the organization of the centre by making some improvements is paramount. Making improvements is not our duty, but it is the concern of those in the higher level or it is the authority of students' dean (SMI Participant 2).*

*... As far as my knowledge is concerned, as there is an expert working with the director in the disability centre, students with VI are provided with Braille papers and other materials from the centre (SMI Participant 3).*

*The university as well as the disability centre or the Department of Special Needs Education didn't try to let us have the technical knowledge of using those technologies. Moreover, as there is no one that can help us to get technical knowledge about the assistive technologies and no supporter in our department who can prepare accessible teaching materials, we cannot support students with VI. Even in the disability centre, as there is no expert whom we can consult, it has become a challenge for us. There is no one who can give us technical training. Even we asked the concerned bodies in 2012 to give us training on how to write on Braille and read from Braille but in vain (SMI Participant 1).*

*I know that disability centre is established in the university, and the head of the centre is trained on special needs education. In the centre, those who have physical disability and hearing impairment get a better service than us. As this is, if there is a person with VI in the centre, we may get a much better supportive service from the centre. To tell the truth, there is one expert with physical impairment assigned in the centre, and he is giving a much better service to students with physical impairment. In the same way, I believe that if an expert with VI is assigned in the centre, we may get a better service. In general, it is very difficult to say the centre is giving a full service as it doesn't have other experts except the two (the expert and the director). ...The presence of experts with physical impairment in the centre helps those students with physical impairment. They get internet service in the centre, but he doesn't have a positive attitude to us. When we go to the centre, he ordered us to go to Kennedy Library where eight computers with Jaws software are placed. There are also two scanners in the centre, but we are forbidden from using them.*

*We don't also use the embossers which are available in the centre. They are not doing anything that supports us (GI Participant 3).*

*...Establishing this centre simply helps the university to be famous. It does nothing to students with VI other than hearing its name. ... Its office is also very narrow and it does not have enough experts to support us well. As we also do not get adequate support from the mentioned bodies, our university result is becoming lower compared to our high school results. Most of the students with VI are dismissed from the university because of lack of support. ... The other point is that there are no experts that give guidance and counselling service for students with VI (SI Participant 1).*

*... none of the students with VI got advice from the centre. Leave alone getting advice, we never get her in the centre when we go there to get solutions for some urgent issues. There is not anyone who is assigned permanently in the centre as well as in the university who can give us training and orientation on how to move within the campus. There is not any special tutorial program arranged for us neither from the teachers nor from the sighted students (SI Participant 2).*

*It is difficult to say there is an expert in the centre because she is not serving in the centre well....It is better to assign someone who is visually impaired with a positive attitude towards us. The same is true for others with disability (GI Participant 1).*

As mentioned in the above quotations, one respondent from the manager group argued that the structure of the university's administration created no problems for the students with VI since there is a disability centre that is established in a special way and led by a director to assist students with disabilities. On the contrary, the other two manager participants acknowledged that the centre has not made a significant effort to support both students with VI and their lecturers.

They also commented that the assignment of more experts is paramount to filling the gap in the organization of the centre in order to give technical training to lecturers and students with VI on how to use assistive technologies, including Braille. Likewise, most student participants reflected that the disability centre is established to make the university famous rather than to provide adequate support for students with VI and their lecturers. As the student participants mentioned, the centre does not have enough experts to support students with VI, for example, by providing handouts or written materials in Braille or in audio forms. It does nothing for students with VI other than occasionally supplying Braille materials. Since the centre could not provide adequate support to students with VI, the results of university students with VI are lower when compared with their high school results. Most of the students with VI were dismissed from the university because of the lack of support from the centre and other professionals, including lecturers. The student participants expressed that either the disability centre or the university departments did not

provide any basic mobility training and counselling services to students with VI. Regarding the absence of mobility orientation or training for students with VI in AAU, some respondents made the following remarks:

*I do not know whether or not they get mobility orientation and training at university level. ...When they are assigned into departments, they are notified the classrooms through a notice. Although we don't orient them, it is not a problem as the sighted students show them (SMI Participant 1).*

*I do not know if they should get it as well. What I know is that mobility training and orientation is not given to them by the university. I think that by principle students with VI should join the university early and be accustomed to the environment of the university. I think that creating this kind of opportunity should be the concern of higher officials in the university (SMI Participant 2).*

*That is a very good question. It is the disability centre's director herself who presents the orientation of different places in the university and arranges for students with VI when they come to the university at the beginning of the academic year. ...Besides, it would be good for the students to get support from the departments and faculties. ... If the departments allocate budget and ask for experts, the university will take the issue into account (SMI Participant 3).*

*When we come to this university, no mobility training and orientation are given to us. ... The other problem that we face is that we don't get any information about the classrooms where we are going to learn or when the classrooms are changed except letting us know through written notice. We just know when the sighted students tell us. If they don't tell us, we sometimes miss classes as we don't have any other alternative (GI Participant 3).*

*I think that a student with VI who does not have a friend who is sighted student may face difficulties. All these happen because orientation was not given and we were not given another opportunity to get information. In general, when I look at the situation, the top management as well as the performers are not worried to change it (GI Participant 2).*

*There is not anyone who is assigned permanently in the centre as well as in the university who can give us training and orientation on how to move within the campus (SI Participant 2).*

*... When we first came to the university, there was nobody to show us the places and give us mobility training. The only alternative we had was to help one another.*

*Those senior students with VI were helping the newcomers to practice mobility training in the midnight when there was nobody on the ways. At this time as the senior students with VI are familiar with the different offices where students get services, they let the newcomers know where the offices are and practice the way to the offices. I was also trained like this. There are some students with VI who do not get this opportunity (SI Participant 1).*

Even though the literature study (see Chapter 3) recommends that students with VI should get counselling services and mobility orientation for locating particular venues ahead of the regular registration period and also after admission; nothing like this is provided by AAU. Two senior management participants and three student participants agreed that the university did not provide mobility orientation and training for students with VI before and after their admission. Even though he is in charge of managing the faculty's services, one manager respondent reflected that he did not know whether or not students with VI were given mobility training; he was not sure that they should receive such training. In addition, the respondents had different views about which responsible body should give the orientation or training to the students. However, no one provided such training to students with VI at university level apart from the effort made by senior students with VI to train the newcomers. The unavailability of mobility training at the centre, department and individual expert level is a unique challenge that students with VI encounter at AAU.

To summarize, it was clearly evident earlier in Chapter 3 that an inclusive approach requires well-organized support structures and specialized support services to meet the additional needs of students with VI. However, as the responses above illustrate, most of the respondents have concerns about the absence of organized support structures at AAU. The majority of informants reflected that the current administrative structure of AAU has created problems concerning the full participation of students with VI in all higher education activities. Voluntary support from lecturers and students occasionally provided limited assistance, but there was no well-organized support service for students with VI at AAU. Participants with VI especially remarked on the inability of the disability centre to provide proper and adequate support for them owing to the absence of sufficient qualified experts in the centre. The data obtained from most participants confirmed that the absence of well-organized support structures was apparently a serious challenge to students with VI at AAU. Since the absence of organized support is complemented by a lack of curricular modification, inclusive education is becoming a crisis for students with VI at AAU.

#### **5.4.6 Lack of curriculum adaptation**

As discussed in Chapter 3, the absence of curriculum adaptation significantly affects the successful implementation of inclusive higher education. Thus, the lack of curricular modification is becoming a serious challenge for universities when catering for students with VI. Similarly, it was apparent from the responses of several participants that the absence of curricular adaptation

was one of the critical challenges that students with VI faced in AAU. In this regard, most student and all lecturer respondents made the following comments about the failure of the university to adapt the curricula in the ways that suit students with VI:

*Regarding the supply of teaching learning materials in the department of law, we are simply advised to use the materials in the library, nothing else. Even we are not given the opportunity to use e-books on desktops. If we ask why the university does not make e-books available on desktops for students with VI, it is not because of shortage of money but it is their unwillingness to put the fund for this purpose. ...Even when we ask the university to provide us recording materials, they are unwilling to do so. ...In general, we are not even allowed to get short term training on using computers which enable us to get/browse information form internet (GI Participant 3).*

*...some teachers provide us reference materials, or course outlines in print format. The problem is that we are obliged to find someone to read the books as they are available in hard copies in the library. If we don't do this, we can't answer questions prepared from the hard copy books (GI Participant 2).*

*In a general sense, I think that implementing modular curriculum since last year is not beneficial to us because it is continuous assessment which is very much implemented through this approach. As there are several quizzes, tests, and assignments in the whole teaching-learning process, we are obliged to ask for the readers more often than before. I said this because it was one or two examinations that we took earlier before the introduction of modularized curriculum. Now the burden is on us as continuous assessments require us to read a lot of written materials and find invigilators repeatedly. In other words, the continuous assessment that is implemented due to the modularized curriculum creates a problem on us since it is done without any additional support. That means when there are a lot of assessments, we are forced to use the readers often and pay a lot (SI Participant 1).*

*There is not anything done to adjust the curriculum as to our need. When they give course outline for the sighted students, they also give us the same material in printed format. We just ask the sighted students to read the information from the course outline as no lecturer prepared it in a suitable way to us. We also get the reference materials listed in the course outline in a printed form (hard copy). We are in difficulty because we do not get the books in Braille as well as softcopy form. As the curricular material is not adjusted in such a way that we can use it, we usually face problems, especially when we write our senior essays and conduct research (SI Participant 2).*

*As the university does not make accessible the curricular materials of each course before the students with VI come to our university, the implementation has become a challenge for both of us. ... As to me, students with VI face special/huge problem when they are asked to write their senior essay. It is good for students with VI to write the senior essay. However, as they are expected to refer different books and reference materials which are inaccessible to them, it makes writing*



*senior essay challenging to them. If they want to use the books by asking others read to them, this is also challenging by itself. The senior essay also requires them to collect information and analyse it. To your surprise, I said they should not be assigned in the department of folklore for this reason. It is better to let them work by replace the senior essay by another course (LI Participant 1).*

*In the courses that I teach, I just give the curriculum materials, such as course outline, handouts and others only in writing for both students with VI and sighted students. Even now, there is nothing special prepared and provided to students with VI only. When I teach for the last ten years, I have given the written materials that I give for the sighted students to the students with VI. There is no one who said I have done this to them. I know that they are in difficulty to write senior essay. ... That means, as students with VI cannot see, they face a special problem different from the sighted ones when they write their senior essays by referring printed materials. Hence, as it is difficult for advisors to solve the students' problems and advise them, we distribute each student with VI for each advisor. It is to reduce the burden that more than one student with VI is not assigned for one advisor (LI Participant 2).*

It was mentioned in the above responses that the lack of curriculum adaptation or differentiation is one of the most serious barriers for students with VI in AAU. As most informants from student and lecturer groups revealed, the university has done nothing to adjust or adapt the curriculum to the needs of students with VI. They confirmed that the curriculum materials, such as course outlines and handouts are presented only in writing for both students with VI and sighted students. Even now, nothing is provided specifically for students with VI only. The respondents commented that curriculum materials in alternative formats and the use of differentiated learning-teaching styles have not been provided for students with VI at AAU. As a result, students with VI experienced difficulties both in their learning and assessments since they are often required to work with visual curricular materials. In particular, it was apparent from the responses of most participants that students with VI encountered serious challenges arising from the absence of the adaptation of several aspects of the curriculum, including the accessibility of course contents and materials and the alteration of instructional strategies and assessment procedures. For example, both student and lecturer participants mentioned the challenges of presenting the senior essay course. As discussed in Chapter 3, modern higher education curricula allow the replacement of written essays with a variety of assessment approaches, such as continuous assessment. However, this does not take place in AAU's curriculum so that students with VI are obliged to write senior essays without accessing reference materials in audio or Braille formats. In addition, it is difficult for advisors to solve the problems of every student with VI.

In general, the absence of curricular adaptation is a huge challenge for students with VI to take full advantage of the existing inclusive education offered at AAU. Since the university currently uses modular curricula which comprise many continuous assessment tools, students with VI have been challenged during the implementation of such assessments as there is no curricular adaptation. Therefore, the absence of curricular adaptation was the basic reason for the additional challenges that students with VI experienced in terms of instructional processes and assessment practices at AAU.

#### **5.4.7 Lack of instructional modifications**

It was mentioned earlier in Chapter 3, curricular adaptation can be achieved by making changes to the processes and methods of teaching and learning, which includes learning interests, styles and success rates of students with VI in their specific learning areas. However, the absence of adaptations on instructional strategies aggravated the curriculum-related challenges of students with VI even further in the context of AAU. According to the findings from the prior studies (see Chapter 3), it is unfair to expect students with VI to achieve the same results as their sighted counterparts if the methods of instruction are not varied and adapted in modern inclusive classrooms. As far as the responses of different informants from all groups are concerned, instructional processes or strategies were not varied and adapted to meet the special needs of students with VI in AAU.

In this regard, the following remarks were made by most participants:

*The main problem in relation to the methods of teaching of our lecturers is that they forget our presence in the class. Even they say 'as you can see from the projector' when they present the lesson in a visualized way. As most of the lecturers teach by pointing to displays, students with VI are not benefitted from the lesson presented through a projector. ...Some teachers teach us using a laptop and LCD. We again cannot answer questions taken from the LCD presentation as we don't have the access to get what they have shown using LCD. For instance, I personally faced a problem regarding LCD presentation. One day, a teacher presented a diagram through LCD and he asked us eight questions from that diagram and I couldn't answer them.... As lecturers who use a projector applied visualized instruction, they should be oriented to verbalize or narrate the lesson to help us understand it. When we raise our hands to answer questions, lecturers simply say 'continue' without informing us. At this time, we do not know whether the chance to answer the question is given to us or not (GI Participant 2).*

*Regarding the teaching learning process, there are situations when lecturers use a power point. Hence, they never ask us if there is any problem when they present the lesson supported with drawings/pictures. They do not care whether we understand or not. Our being there is none of their business and they never thought of us (SI Participant 2).*

*...The other thing is that there are no other alternatives to get lecturers' lecture or explanations except taking our own notes while they are teaching in the class (GI Participant 5).*

*We only take notes by listening to what the lecturers are saying in the class. No possibility to record on a tape recorder. We can't record the lecturers' explanation as we don't have a recorder that is given to us. We also do assignments based on what we listen from the lecturers' explanations in the class. In spite of all these difficulties, we are allowed equal time to do examinations (GI Participant 8).*

*In addition to the inaccessibility of teaching materials in alternative formats, everybody knows that students with VI face challenges in relation to the methods and mode of assessments (LI Participant 2).*

*One of the major problems that face the university lecturers while implementing inclusive education is lack of knowledge and skills on how to teach students with VI effectively (SMI Participant 1).*

It was documented in Chapter 3 that instruction needs to be adapted in the inclusive higher education context to improve the retention and success of all students, including those who are visually impaired. However, students with VI experienced several challenges or barriers at AAU during the instructional processes in terms of lecturer-student interaction and instructional methods, as the above responses demonstrated. As the responses from some student participants indicated, the lecturers did not consider the presence of students with VI when delivering their lectures through demonstrations and LCD projectors. Most lecturers presented their lessons in visualized ways by ignoring the presence of students with VI in the classroom. They did not even call students with VI by name when requiring them to answer questions. Some lecturers did not allow students with VI to record their lectures. Even though some lecturers tried to clarify written material for the sake of students with VI, this was done on a voluntary basis rather than as an accepted pedagogical principle. Student respondents maintained that the only option that students with VI have at AAU is to make their own notes by listening to the explanations of lecturers in the classroom. One lecturer participant mentioned that students with VI face challenges in relation to the methods of teaching used by every lecturer at AAU. On the other hand, one respondent from the management group noticed that lecturers also faced problems when implementing inclusive education for students with VI. One of the major problems that university lecturers encountered is the lack of knowledge and skills to teach students with VI effectively. It is clear that students with VI face critical challenges in AAU as a result of the lack of instructional modification. The main reason for this is that the lecturers do not receive orientation

and training in how to teach students with VI in their inclusive classrooms. In addition to the absence of instructional modifications, students with VI faced several assessment-related challenges in AAU.

#### **5.4.8 Assessment-related challenges**

As mentioned earlier in Chapter 3 students with VI have difficulty in carrying out various forms of assessment which lack some kind of adaptation or intervention. The majority of respondents from the different groups also acknowledged that the absence of adaptations or interventions is one of the assessment-related problems or barriers which students with VI have to face at AAU.

##### **5.4.8.1 Lack of adaptations and interventions to assessments**

The lack of assessment adaptation and intervention was evident in a number of responses from students, lecturers and senior managers at AAU. For instance, participants from different groups made the following remarks on how different forms of assessment take place at AAU:

*There is not anything done from the teachers' side to adjust the mode of assessment suitable to us. They use the same written assessment they prepared for the sighted students to us. They have never tried to give us the exam on Braille, or test us orally. In general, we are evaluated in the same way as the sighted students are evaluated. The questions of examination are also prepared taking the sighted students in to account (SI Participant 2).*

*The main problem concerning the assignments and mode of assessments is that nothing is given to us in the form of Braille or audio other than a written material. ...When assignment is given in group, most students with VI are in difficulty. This is because of the fact that no material is ready suitable to us and the sighted students also think that students with VI cannot contribute to the group assignment since we do not get the source materials in audio and Braille formats. As a result, the sighted students do not want to work with us in a group. Up to now, we are begging the sighted students to make us member of their group and work with them (SI Participant 1). ...the sighted students know that the assignment is given in the form which is unsuitable to us, and therefore, they form groups excluding us. We students with VI are left alone. ...Although we are capable of doing the assignments, we cannot finish and submit them on time as the materials that are given to us are incompatible. We even cannot forward this as a reason for the university (GI Participant 7).*

*... Whenever students know the day on which examination is given, they tell us the day one day ahead. Of course, some other teachers post the*

day on the notice board (GI Participant 5).

There is no difference on the kind of teaching and learning process as well as assignments that are given to us and for the other sighted students. No modification is made. To cite as an example, when worksheet is given, it is given in writing, not in Braille or listening form for students with VI. We also submit the assignments on the same day, and this has also its own negative impacts on our results. I said this because ...we search for somebody to read and write the assignments which is time consuming. As we submit equally with the sighted students, we are not successful to compete with them. Even equal time is allotted for examinations (GI Participant 4).

It is very difficult to say suitable manpower will be adjusted to the students with VI in the university. ...For example, we just beg sighted students to read the written materials for us during examination time as it is difficult for them to stay with us ignoring their study. ...It is not only failing to assign invigilator to us, but nothing is done in arranging personal assistants and specialists to support us. Nobody thought about the importance of writing the exam in Braille. If this is done, it may create a problem as there could be some students with VI who do not write and read using Braille. Anyway, there is nobody who considers our problem in relation to examinations (SI Participant 2).

I know this problem as I participated in modular syllabus preparation. When the final examination is taken out of 40%, the rest is taken out of 60% using continuous assessment allocating 10% for each mode. Besides, whenever I intend to give quiz, I tell them to bring readers. Sometimes they may not get the information about examinations which I posted on the notice board. Even if they get the information, they might fail to get readers. Lecturers may be unwilling and not ready to text them messages through mobile or other means. It clearly known that most of the lecturers let students with VI know about continuous assessment through a notice board and if their friends do not tell them, they may not get the information. This is a problem that really exists in the university. ...In order to make students with VI do the tests in Braille, we did not get training on how to use Braille. Even we can't examine them orally because there are more than ten students with VI in my class and it requires much time to read the questions. To give the exam orally using technology is impractical because no material is ready in the university. We can't also see other possibilities because no orientation was given to us. Nevertheless, as there are no materials and readiness, we are compelled to give written examinations to be read by readers (LI Participant 2).

When I often transfer information through writing, they get it from their sighted classmates. To make the information accessible to them in a special way, it needs to arrange additional time, budget, and materials. I think that doing this is the responsibility of the administration or the so called disability centre. What my duty as a lecturer is to make the lessons that I present in the classroom accessible to students with VI through oral explanation. I do not know this much about the technology that can support students with VI. I heard that there are some lecturers who give their lectures in the form of softcopies to their students.

I also think to do the same thing for them, but I fail to make it practical

*because no incentive is given from the university. Why do I worry if the university does not want to give us any over load/overtime payment? ...They also give me the assignment through writing (hard copy). I think that it can be possible if bring the assignment recording on a tape recorder but I have never tried that.*

*...I have never made ready the examinations orally or made the students take the examinations through a soft copy. Presenting the examinations orally or through a soft copy has also another problem. You cannot control if they exchange answers through message (LI Participant 1).*

*It is known that there is a problem regarding the preparation of exam rooms and adjusting to give the examinations in the form of listening or through Braille other than using personal readers (SMI Participant 3).*

*...to make them take the examinations on Braille with the sighted students, we do not know how to read Braille. There are also some from students with VI who cannot write on Braille, for instance, of the 24 students whom I teach, almost 14 of them are illegible to Braille writing. That*

*is why we made them bring examination readers who can help them to write the answers. This by itself has created a problem on us. For example, we give handouts, and some students with VI give the handouts to the examination readers and make these readers read the handouts and do the examinations on behalf of them. For this reason, the students with VI do not study for the examinations (SMI Participant 1).*

It is apparent from the above responses that students with VI are challenged by the absence of adaptations and interventions with regard to the different forms of assessment at AAU. A majority of respondents from student, lecturer and senior manager groups similarly agreed that different forms of assessment are accessible to students with VI in writing only. In addition, lecturers usually supplied information to students with VI about assignments and examinations to students with VI in written form only. No modifications are made to assignments and other assessments, as well as the source materials to do them by considering the presence of students with VI at the university. As a result, these students are obliged to get the information with the help of sighted friends. If they cannot get willing friends who will give them the information printed on the schedules posted by lecturers, students with VI might miss the examinations. Since the university does not assign readers for students with VI, they are faced with a critical problem when doing the assignments which require referencing to written material. As most respondents from all groups indicated, the problem of accessing assessment-related information in alternative formats, such as audio materials or softcopies and Braille was mainly caused by the failure of the university to supply the necessary human, material and financial resources. For example, lecturer participants are aware that the university does not budget to remunerate lecturers who use their extra time to modify assignments and examinations in ways that suit students with VI. On the

other hand, participants from the student group indicated that both the management and lecturers of the university are not willing and ready to make adaptations and interventions with regard to the assessment of students with VI. For example, it is not possible to invigilate students with VI together with their sighted counterparts in the same classroom by using tape recorders or computers. In addition, there has been no attempt to conduct the assessments using technology. As the responses of students, lecturers and managers commonly indicated, the main reason for not using Braille was the failure of the university to assign an expert in the field who can provide training in Braille for students with VI and their lecturers. All the gaps of the university mentioned above created difficulties for students with VI to use different forms of assessment including assignments. These challenges have negative impacts on the inclusive learning of students with VI and are the reason for their lower academic results. This result is consistent with the prior findings presented earlier in Chapter 3. The inability of most students with VI to the completion of assessments and assignments using Braille is a unique problem at AAU. This has led the university to use personal readers as the only means of examining students with VI. As a result, finding readers or invigilators for the examination of students with VI is becoming another critical challenge at AAU.

#### **5.4.8.2 Finding readers/invigilators for examinations**

In particular, obtaining readers for examinations is a great challenge to students with VI in AAU. In this regard, most respondents from different groups made the following comments:

*We also take the examinations prepared for the sighted students by finding readers by ourselves. We did this because no lecturer prepared the examination on Braille or orally. Leave alone this, neither the university nor the lecturers make readers ready to invigilate us. If we do not get readers, we may miss the examination (SI Participant 1).*

*The problem that we face during examinations is not only the unsuitability of the place where we take exam. We take exams by finding readers by ourselves. Although the university refund the money, we first pay the money for the readers. We pay 15 birr per hour for readers, but as it is taxed it is difficult to get exam readers. The risk is what if we don't have money that we pay for readers (GI Participant 2).*

*During examination, it is we who search for students that could invigilate us by reading the question papers as well as writing the answers for us. Sometimes, they become bored and became disinterested because of the unexpected nature of the examination. For example, teachers sometimes prepare a matching type question which includes a lot of responses (for that matter A-Z matching alternatives). As this spends much of their time on reading all alternatives for each matching question,*

*the reader students face problems in invigilating us. As a result, those who came as to their schedule went away leaving the students with VI. When we beg them, they ask us to be paid 50 or 60 birr which is more than the 15 birr that is allocated by the university to pay them per hour. We are obliged to pay the money they demand as we have no other alternative (SI Participant 2).*

*During assessment, as there are some of them who do not write and read with Braille and we cannot also use Braille, we communicate through a mediator (another third person). I assess not the writing of students with VI, but the other third person's writing. This has its own problem as the students bring readers/ invigilators by themselves. For this reason, they might bring from senior students and we just simply ask their ID cards to check if they are students or not. Although the readers can be physics or engineering students, they may answer the questions using their common sense, especially on Literature and Folklore courses, and help the students with VI unnecessarily. As a result, it can have its own impact on our assessment (LI Participant 1).*

*...The problem is that there are students who are called 'readers' whom the students with VI bring to read the examination. For me, these are not good readers since they come after they are invited tea by students with VI and arranged some sort of benefits. For example, the readers write the answers instead of reading the exam and letting the students with VI tell the answers. I am not happy with some of them because they support the students with VI by doing the answers collaborating with them instead of being good readers (LI Participant 2).*

*Who should be the exam readers is our university's problem. Who should bring the exam reader is also a problem. That is to say, there is a complaint from lecturers that exam readers do the exam as students with VI bring them by their own choice. ...What has been thought but not yet been implemented is the idea of examining students with VI through letting them listen on the computer. We have not tried to make this idea practical. We do have gaps, and we should think about examining students using a computer in the future (SMI Participant 3).*

*... There is a conflict between the students and their lecturers because of the condition of the person who read the exam. I mean there is a rumour that students with VI choose their own exam readers. ...this upsets lecturers because there might be dishonesty (SMI Participant 2).*

From the above quotations, it seems that students with VI face different problems when taking examinations with the help of personal readers. As most student participants explained, they took the examinations prepared for the sighted students by finding readers themselves. Most student participants demonstrated that finding readers for examinations is very challenging to students with VI since the readers are not happy with the exhausting process of reading examination items, and the unsatisfactory payment allowed by the university. In addition, it was apparent from the responses of participants in all groups that the university has problems examining students with VI using supportive technologies, including recorders, Braille materials and computers with



speech outputs. The lecturers and department heads could not resolve the problem of examination readers through the use of assistive technology because they lack the willingness and skill to use the technology.

The other challenging problem at AAU is the lack of clarity about how and by whom the assignment of readers and invigilators should be made. As a majority of student participants revealed, students with VI were required to provide their own readers when taking examinations because neither the university nor the lecturers made readers available to invigilate them. Most student participants revealed a common problem of finding examination readers by students with VI themselves and they missed the examination because they could not get readers. On the other hand, all participants from the lecturer group indicated that are dissatisfied with students who served as invigilators because they helped the students with VI by giving them the answers to questions instead of being only readers. One participant from the senior manager group also acknowledged the existence of a conflict between students with VI and their lecturers with regard to the provision of readers for examinations. As it was recommended in Chapter 2 and 3, students with VI should be able to hire their personal readers using the financial support provided by the university. However, students with VI faced financial difficulties with regard to hiring their personal readers while the university allocated inadequate funds to do so. The absence of adequate funds to cover the costs of assessment was mentioned by all the respondents from the student, lecturer and senior management groups.

#### **5.4.8.3 Financing assessments**

The lack of adequate funding is evident as one of the challenging problems that students with VI encounter for completing examinations and assignments at AAU. It was apparent from the interviews with students, lecturers and senior managers that students with VI have difficulties in finding personal readers for examinations since the funds allocated are not adequate to pay for readers. In this regard, some participants expressed their views as follows:

*The other thing is that we are given money to pay for readers, but as it is not enough it is only allowed for final examination. Whenever we have tests and mid-exams, we cover the readers' expenses by ourselves. The money that is allowed for readers is given by the university after the examinations. Since the university delays the payment, it is difficult for us to get readers unless we pay them ahead or immediately after the examination. Moreover, we are allowed 15 birr per hour for a reader but*

*now the readers are demanding us to pay them from 30 birr up to 50 birr. What is assigned from the university is 15 birr per hour and they get only 12 birr after being taxed. As we have no alternative, we just pay whatever the readers ask us to do so (SI Participant 2).*

*... The failure to give us the money that we pay for readers at the beginning is a problem by itself. ...Even as the payment for the readers is very small, it is difficult to get readers (GI Participant 1).*

*The money that is allowed for readers is given by the university after the examinations. Since the university delays the payment, it is difficult for us to get readers unless we pay them ahead or immediately after the examination (GI Participant 4).*

*I know that students with VI need readers to use the materials that are prepared for the sighted ones and this may require them expend some amount of money. I also know that the budget that is allocated for them from the university is not as such sufficient. The money that is paid for exam readers is not adequate so that students with VI pay additional money from their own pocket (SMI Participant 2).*

*The university did not allocate budget for exam readers or invigilators. As a result, the students with VI were made to join our department without any budget allocated to us. This indicates that they should be accommodated with what is available in the department (LI Participant 2).*

*That is right because it is difficult to get invigilators/readers for 15 birr per hour. This can be solved by the university, not by the lecturer. If assigning invigilators for students with VI is the responsibility of the lecturers, we might be obliged to be unwilling to teach students with VI. To improve this situation is the duty of the administration (LI Participant 1).*

As discussed in Chapter 3, it is crucial for students with VI to be able to hire their personal readers or assistants through the students' funding programme that should be arranged or financed by the university. However, the responses from the interviews of students, lecturers and senior managers similarly indicated that the university did not allocate adequate funds to pay those who served students with VI as examination readers or invigilators. Since the university allowed very small payments for this purpose, students with VI have problems when hiring personal readers for examinations. For example, 15 birr per hour is provided by the university to pay for readers whereas the readers asked for up to 50 birr per hour. As a result, students with VI are forced to pay that amount of money to be able to do the examination. In addition the university does not pay the money to students with VI in advance.

This also has a negative impact on students with VI to find readers. In addition, the university allows students with VI to utilize these funds for the readers in final examinations only. Whenever they have tests and mid-year examinations, students with VI are obliged to cover the readers'

expenses by themselves. The responses of student participants also indicated that no money is given to students with VI in order to cover their expenses for the readers when doing assignments. Since the disability allowance that students with VI receive each month is very small (only 120 birr or around 6 USD), they find it difficult to finance the costs of assessment-related expenses. The unique challenge that students with VI raised concerning getting readers for the examinations is that the money allowed to pay for readers is inadequate. Their assessment-related problems extended to the place and time of examinations.

#### **5.4.8.4 The place and time of examinations**

The challenges that students with VI encounter at AAU in relation to assessment are not only the lack of adequate funds for readers but also the inappropriate allocation of venues and times for the examinations. In this regard, the following remarks were made by the majority of respondents from different groups:

*...while the sighted students take examinations in the classroom, we take examinations on the corridors. As a result, it is high likely to be disturbed by noises (GI Participant 5).*

*... We take examinations on the corridors of the classrooms where sighted students are taking the examinations. This is also inconvenient as people are creating noises while they are walking through the corridors. My department as well as other departments never arranged exam rooms and additional time to us (GI Participant 4).*

*...there is a situation where by students with VI take examinations on corridors. Although this is a problem, what can be done if there are no free rooms around there? ...for instance, 17 students with VI in my class. If I want to invigilate all of them in one class, they might hear each other's answers (LI Participant 1).*

*Letting students with VI take examinations on corridors and exposing them to noises is a reality. The cause of this problem is scarcity of examination rooms. As it is difficult to get a free classroom near to a room which is assigned to all students in a particular section, the students with VI are made to take the examinations by the help of their readers in the corridors around the room. They cannot be examined together with the sighted students in a room because when the readers read the examinations to them, the sighted ones will be disturbed (SMI Participant 1).*

*...The problem of invigilating students with VI on the corridors is true. Really, making students with VI take exams there creates a problem on them by the passers-by. This again makes them not to do the exam properly. Therefore, this also should be considered in the future as this is real challenge that happens and need to be solved. For instance, it is clear that in Dilla University, students with VI take exams on a computer. It has been thought over to bring this experience to our university but in*

*vain (SMI Participant 3).*

*It is true that students with VI are invigilated on the corridors. I also made them take examinations in the same time allotted for sighted students (LI Participant 2).*

*As we are invigilating on the corridors, there is a possibility to be disturbed by noise, and our readers also become fed up. Despite all these situations, there are teachers who never allow extra time in a special case for students with VI (SI Participant 2).*

These responses of most participants in all groups indicated that AAU's lecturers invigilated the sighted students in the classrooms whereas students with VI were invigilated separately in corridors by readers they provided. This is the most serious and unique challenge that students with VI experience at AAU.

According to the respondents from lecturer and manager groups, one of the reasons for not invigilating students with VI in the classroom like their sighted counterparts was a shortage of classrooms. The lecturers cannot invigilate students with VI together with the sighted students in the same room since the readers for the students with VI disturb the sighted students. As a result, the students with VI are forced to take the examinations with the assistance of their readers in the corridors. On the other hand, the respondents from all groups acknowledged that students with VI were disturbed by the noises from passers-by while they are taking the examinations in the corridors. This, in turn, requires the readers to repeat what they have read when required by the students with VI. As a result, the students with VI require additional time to compensate for the wasted time because of the disturbance created by the passers-by. It is also recommended by the theoretical models and review of the prior studies (see Chapters 2 and 3) to extend the time of examinations and other forms of assessment for students with VI. However, most respondents from the student and lecturer groups confirmed that the time allowed for students with VI to complete examinations and assignments is the same as that for the sighted students. Taking all the challenging situations into account, most respondents from different groups made the following comments:

*Concerning time arrangement, there is no clear direction from university management. ...For example, there are some teachers who add ten minutes for a two hour examination. There are also who never add any time for students with VI. ...the allotment of additional time to students with VI varies from department to department depending on the good will of lecturers. There are some departments where one can get students with VI facing problems (SI Participant 2).*

*We take examinations by having others read to us which has its own*

*impact on the time we spend in doing the examinations. For instance, if 30 minutes is allotted for the examination, the same is true for we students with VI (GI Participant 4).*

*Not allowing extra time during examinations for students with VI is another problem. Although there is a situation whereby extra time is allowed to us, it is different from department to department and from lecturer to lecturer as it is not allowed to do so formally. As there are some lecturers who allow us extra time for assignments and examinations, there are also others who*

*never allow us to do so. This is again done by the willingness of lecturers, not something decided by the law and regulation of the university. ...For example, we students with VI learning in the school of law will take an exit exam at the end of completing our learning along with the sighted students. For this exam, we have asked the university to give us additional time to read different books so as to make ourselves ready well, but they refuse and oblige us to take the exit exam with the sighted students. ...However, there is neither good attitude to us nor policy to make the university support us fairly (SI Participant 1).*

*As far as time allotment is concerned, I just allow students with VI to use the same time that I allot for the sighted ones. If additional time is allowed for students with VI, the university should pay overtime for lecturers who invigilate for some more additional time (LI Participant 1).*

*... Because of shortage of awareness on time management, I just allow the students with VI the same time with the sighted students. No one has told us what to do for students with VI as far as time is concerned (LI Participant 2).*

*We lecturers do not know the fact that the amount of time that is allowed to students with VI for their examinations. We don't have the awareness about additional time (SMI Participant 2).*

*Although it lacks consistency, there is a time where we add extra time for students with VI when they take examination. For instance, if an hour is allotted for an examination, there is a practice to add 15 minutes more for students with VI. However, a lot of lecturers do not add extra time because they may not know how to deal with the assessment-related problems. The main reason for this problem is the fact that there are newly employed lecturers assigned every year and they are not made to have the awareness on how we treat students with VI in some cases (SMI Participant 1).*

*...I have no idea about considering the time allocated for examinations to students with VI in a special way (SMI Participant 3).*

As indicated in the literature study in Chapter 3, it is important to make assessment-related adjustments, including extra time for examination (time-and-a-half is the usual extension) as well as flexible deadlines for assignments in order to address the problems of students with VI at AAU. However, the responses from interviews with students and lecturers indicate that students with VI are required to do examinations and assignments in the same time allotted for the sighted students. Since students with VI do the examinations on the corridors and are disturbed by the

noise created by the passers-by, they have to ask their readers to re-read the questions. This in turn requires students with VI to be given additional time to compensate for the time wasted for the re-reading of the questions. As the responses from student participants indicate, most of AAU's lecturers do not allow additional time for students with VI although some lecturers do allow a 10-minute or a 15-minute extension for a two-hour examination. Surprisingly, one lecturer participant noted that if additional time is allowed for examining students with VI, the university should pay overtime rates to the lecturers who invigilate. On the other hand, the university has not put into place the necessary budget or a system to motivate the lecturers to support students with VI in their extra time.

As discussed in Chapter 3 the inclusion of students with VI necessitates special arrangements for assessment with regard to venue and times. Lecturers at AAU invigilate students with VI in corridors unlike the invigilation of their sighted peers. As a result, students with VI are disturbed by the noises of passers-by which require them to need more time for the re-reading of the questions. Taking examinations in corridors and not being allowed more time for examinations and assignments are unique challenges that students with VI experience at AAU. The underlying reasons are the absence of system, awareness, adequate classrooms and additional funds to make adjustments with regard to the venues and times of examinations to assist students with VI. Basically, the scarcity of resources is the major cause of all those assessment-related challenges mentioned above.

#### **5.4.9 Accessing resources**

It was explained earlier (see 3.3.4) that most of the challenges to the inclusion of students with VI are linked to the scarcity of resources. As one of the higher education institutions in developing countries, AAU has demonstrated a shortage of resources, such as human, physical/material and financial resources, to be a serious challenge when dealing with the inclusion of students with VI in relation to the legal and theoretical principles discussed in Chapter 2.

##### **5.4.9.1 Lack of human resources**

It was indicated by all participants earlier that AAU lacked organized support structures to accommodate the special needs of students with VI. One of the reasons for this is the scarcity of appropriate human resources. In one way or another, the lack of qualified and committed

manpower affected the effective implementation of inclusive education at AAU. In this regard, respondents from all groups made the following comments:

*... most of the lecturers are not good for students with VI as they lack the awareness about special needs education. They do not have good attitude too. ... There is no body assigned as a peer tutor by the university other than those of our friends and volunteers who sometimes read the written materials for us. Leave alone this, there is a situation where by students with VI search for people by ourselves to read examinations. In general, we get no support from relevant experts in the university as well as organizations outside the university. ... There is no also permanent personal assistant who is assigned for we students with VI. When we first came to the university, there was nobody to show us the places and give us mobility training (SI Participant 1).*

*It is very difficult to say suitable manpower is adjusted to the students with VI in the university. As to me, the university does not consider whether there are students with VI in the university or not. ... As nothing is done to solve our problem, we take it for granted that the university doesn't give us attention. It is not only failing to assign invigilator to us, but nothing is done in arranging personal assistants and specialists to support us (SI Participant 2).*

*I think, the first problem that the university should solve is the absence of orientation and training programs to the university staff regarding disability issues (LI Participant 1).*

*As far as attitude is concerned, there are some lecturers who are unwilling to be assigned in classrooms where students with VI are assigned (LI Participant 2).*

*In general, the lecturers do not have special knowledge to properly treat students with VI. It is unquestionable to have efficient human power to provide the necessary support for students with VI. ... In our department, there is not a permanent peer tutoring system which is established to support students with VI. Of course, now it has become a challenge for students with VI to get peer tutor as peer tutoring becomes a means of income for sighted peers (SMI Participant 1).*

*It might be because of scarcity of man power and budget, the disability centre is not seen to support the students as well as the academic staffs. I do not know how many people are there in the disability centre other than the director. Most likely, I think that one of the barriers is the failure to assign an expert in visual impairment and inclusive education. I think that it might be impossible to assign personal tutor for students with VI now due to shortage of budget (SMI Participant 3).*

It was stated in Chapter 3 that the academic staff in many sub-Saharan countries do not have positive attitudes or a sound knowledge of inclusive education so that they are reluctant to accommodate the unique needs of students with impairments. Similarly, staff members at AAU are reluctant to support students with VI because they lack a positive attitude and knowledge

relevant to support students with VI. The above responses from the student, lecturer and senior manager groups indicate that most lecturers are not supportive towards students with VI since they do not have positive attitudes or the relevant knowledge of inclusive education. Participants from all the groups noticed that no-one was assigned by the university to support students with VI in reading written materials and examination questions to them. This was due to a lack of funds.

In general, students with VI have encountered various difficulties with their participation and learning at AAU as a result of the lack of human resources with the right attitude and orientation towards the inclusion of students with VI. Therefore, the absence of willing and knowledgeable manpower at university or department level is found to be a major challenge for students with VI at AAU.

#### **5.4.9.2 Inaccessibility of the physical/material resources**

The resources-related issues with regard to students with VI involve the provision of physical/material resources. Inaccessibility of physical/material resources is another obstacle to the inclusion of students with VI at AAU. In particular, the responses of some student and lecturer participants indicate the following challenging problems in connection with the roads and paths that students with VI have to use on the campus of AAU:

*There are different problems in connection to physical environment and facilities. There are no roads suitable to us around the buildings. We know that if we ask the university to make adjustments, it won't be accepted. Therefore, we are trying our best to use the buildings available whether we like it or not. ... As there are no signs at edge of roads, we make our sign by sensing. As there are also no signs in the buildings, we try to identify where we reach by counting our strides. We also identify the doors by sensing them as there are nothing made on the doors to enable us use easily (SI Participant 1).*

*There is not anything made on the paths to the students with VI. The worst one is there are paths damaged because of new constructions. For instance, we cannot walk properly through what is called '5th gate' as the path is full of mud. If we do not get anyone to help us, we face an obstacle to go through there. Nobody thought the fact that this path can create problems on the students with VI. The ditch was dug five months ago and it is still there without taking any measure to adjust it (SI Participant 2).*

*One of the challenges that face students with VI while they are learning in the university is getting parked cars /vehicles on their way. Some*



*students with VI walk inside the university without using their cane thinking that they know the surrounding well. At this time, there is a possibility of bumping into cars. The other barrier is that there are some ditches which are dug for different purposes. This creates a problem on students with VI as we don't get any information ahead (GI Participant 3).*

*There are a lot of things that should be improved in the university as far as the buildings and roads are concerned. As the edges of the stairs are damaged, we are in difficulty to use them. On the asphalt roads too, there are ditches dug here and there which are challenging to us when we walk as there are no signs that show us (GI Participant 4).*

*...The physical condition in our campus is also difficult. For example, students with VI have difficulties in using the buildings and roads. We sometimes see them bumping with things (LI Participant 2).*

As most student participants and one lecturer participant mentioned, the physical design of the buildings and their paths are not suitable for students with VI at AAU. The roads on the campus are full of obstacles, such as holes and cracks. They cause physical injuries to students with VI and impede their movement when they walk between the rooms and buildings. Although some students with VI walk without using canes, the cars parked in their way create a problem for them. In addition, the absence of suitable technology providing information for students with VI makes it difficult to move along the roads. Students with VI therefore face difficulties in finding their dormitories and classrooms easily.

In addition the buildings have been constructed without considering students with VI so that they are often challenged to find them for their various activities. Responses from individual and group interviews revealed the challenging nature of dormitories and their facilities as follows:

*The accessibility of physical resources is the other challenge for students with VI in the university. When students with VI come to get dormitories, proctors just do what they do to sighted students. They never arrange anything special to the students with VI. They assign us on the upstairs as well as in the middle of the buildings just like the other sighted students. What they do regarding dormitory is that they assign eight students with VI together in one dormitory. Except this, they never adjust any thing for us. Even they make us share and use toilets and bath rooms with the sighted students. As some students who do not have free toilets in their building come and use our toilets, it is very difficult for us to use in the toilet after the others use in it. We usually try to use the toilet immediately after it is cleaned before it becomes dirty. This problem is created because proctors as well as cleaners do not keep the cleanliness of the toilet all the time. Besides as there are no suitable toilet rooms for students with VI in their own building, this again*

*shows the weakness of the university. The basin is also prepared for sighted students and as a result we have a problem to wash and dry our clothes there. For that matter, our clothes might be taken away. We share the shower rooms with the sighted students. Although we have showers around our dormitories, they do not have doors and we ask whether there is somebody inside the shower or not. As the shower rooms do not have doors and we cannot lock, we sometimes lose our soaps and face problems (SI Participant 2).*

*In the university, female students' dormitory is placed separately from males. We female students with VI are given dormitories in the building where other sighted students are assigned. For example, eight female students with VI are assigned in our dormitory separately. There are two toilet rooms near to our dormitory which are used by both the students with VI and sighted female students. We use the shower as well as toilet rooms in the building. It will be better if we have at least our own one toilet room. We also wash our clothes in a far place which is used by all female students. Hence, it is difficult to wash our clothes there and dry them, and our clothes are sometimes stolen. When we dry our clothes out of dormitory, they are taken by thieves. What we decide is to wash our clothes in the common shower rooms. However, as the sighted students use the shower to bath their body, we feel uncomfortable and anxiety (GI Participant 2).*

*Nothing is prepared properly for we female students with VI around our dormitories. We are assigned in one of the dormitories which were prepared for sighted female students. The toilet room is not ready in such a way that female students with VI can use it with the help of a cane. As we don't have our own basin, we share with those sighted students. Therefore, although it is inconvenient to us, we still use it with difficult situation (GI Participant 5).*

*When we go to our dormitory and away from it, we usually face a problem to go up and down the stairs as there are no any signs at the right or left side. ...When we also look at the toilets and basin, there are not suitable for us. We use with those toilets and basins prepared for sighted students. Nothing is arranged for us (GI Participant 7).*

*... There are no toilet rooms with suitable seat to us. The toilet rooms also do not have doors which make us worried when we use there. As the toilet rooms do not have doors, we sometimes make a sound while we are using there in case others may pour water on us. When we take showers, for instance, as there are no doors and cannot be locked, the sighted students take our clothes. When they take our clothes and knowing that we cannot see, we become very upset (SI Participant 1).*

*...The other thing is that there is a problem of accessing dormitory, classrooms, etc. easily (LI Participant 1).*

According to the responses of student participants, the university assigned students with VI to dormitories that were constructed for sighted students without considering their special needs. Students with VI are facing with difficulties when they use the dormitories at AAU. In particular, the proctors assign four or eight students with VI to one dormitory without considering their special

needs. For example, students with VI are assigned to dormitories located upstairs and in the middle rooms so that they face physical difficulties in getting to their rooms. The absence of any tactile signs on the doors of the rooms makes the situation worse for students with VI. Since students with VI are randomly assigned to dormitories as for sighted students, they encounter further difficulties when sharing toilets, bathrooms and basins. Some participants from the student group mentioned that students with VI shared the toilets with sighted counterparts because the university has not arranged suitable toilets for them. As a result, students with VI faced difficulties in using the toilets immediately after others have used them since no-one is assigned to clean the toilets. When students with VI use the bathrooms without doors and share the basin with the sighted students, their toiletries and clothes are sometimes removed by other students. It is evident from the responses of student participants that students with VI experienced unique challenges when sharing the toilets and bathrooms with sighted students. Since the sighted students create unforeseen problems for them, students with VI cannot use the toilets at any time they like or take baths freely. It is also very difficult for students with VI to wash and dry their clothes in the existing washtubs because they are located outside their buildings. Even though students with VI have complained about the challenging nature of the dormitories and their facilities, the university has until now not made any special arrangements for students with VI.

Students with VI were also challenged by the nature of other buildings that serve them such as recreational centres and dining halls. Some student participants made the following comments:

*Regarding recreational centres and facilities, nothing is made ready considering us. We use the recreational centres prepared for sighted students if we can so. We are given a separate small room where we can drink tea. This has been a common practice since many years back. The place where we have tea looks like a small kitchen which is narrow to accommodate if a lot of students with VI come at the same time. For this reason, there are some students who are entertained where they stand. We also have our own room in the dining hall where the waiters/waitress serves us what we eat. The materials with which we eat are those used by the sighted students. No orientation was given to us on how we use in the dining hall and have our meal in the dining hall. We eat our meals as to our habits and as we like (SI Participant 2). We also face problems when we go to dining hall. Although students with VI have our own dining rooms, the hosts there do not treat us well (GI Participant 4).*

As mentioned in the above responses, students with VI use not only the dormitories but also the recreational centres and dining rooms available for sighted students. Despite allowing students

with VI to drink tea and take meals in their separate rooms, the university has never modified the facilities and services there by considering the needs of students with VI.

The problems challenging students with VI in accessing buildings and the facilities have been extended to classrooms and libraries. Most student participants made the following remarks about the inaccessibility of classrooms, laboratories and libraries to students with VI:

*As far as the classroom is concerned, we are assigned in the classrooms where the sighted students learn without considering our difficulty. Especially, when we are assigned in the classrooms in the upstairs, we are very much in difficulty to go there and attend the lessons well. ...There are also no comfortable chairs in the classroom. As arm chairs are disorganized in the classroom, our mobility is very limited. As there is no regulation about sitting arrangement in the classroom, we try to sit at front arriving there earlier than the other students. ...However, there is no this kind of sitting opportunity for students with VI (SI Participant 1). ...no adjustment is made for us as far as physical as well as environmental things are concerned. There is not anything changed in the classroom too. ...Regarding classrooms, our problem is not considered and we are made to learn where ever the sighted students are assigned to take the courses. Contrary to this, when we were in high schools, the ground floor was assigned for the sake of us. This kind of adjustment is not made in the university. As there are times for us to be assigned upstairs, we sometimes face problems when we go up and down the stairs. The classroom chairs are not adjusted and made ready to us. As the chairs are disorganized, we usually organize the chairs and sit on them. Whenever classroom or other things are built, no adjustment is made considering students with VI. ... Everything is made considering the non-impaired students, not for us. For example, there is a special reading room (computer room) arranged for us in the main library. However, it demands us to go upstairs and the room is narrow. Although there are few computers in the library, there are few sockets to use. When the computers are damaged, they are not repaired immediately (SI Participant 2).*

*The other challenge is that we don't get a suitable place when we are invigilated (taking exams) while the sighted students who are our classmates are invigilated in classrooms. Since we take exams on corridors with our own readers, we are disturbed by the noise of people who are walking around the corridors (GI Participant 6).*

*...as we are not given information and any support when we go to classrooms and exam rooms, it is difficult for us to get the rooms (GI Participant 4).*

*The other problem that we face is that we don't get any information about the classrooms where we are going to learn or when the classrooms are changed except letting us know through written notice. We just know when the sighted students tell us. If they don't tell us, we sometimes miss classes as we don't have any other alternative (GI Participant 3).*

The above responses indicate that AAU assigned students with VI to classrooms, laboratories and reading rooms without considering their special needs. As no special arrangement is made when placing students with VI into classrooms, there was a possibility that they could be assigned to upstairs classrooms. As a result, they face challenges when they need to go up and down the stairs. Students with VI have problems in accessing information about the classrooms to which they are allocated for lectures and examinations because the information is provided in the form of written notices only. Nothing has been considered with regard to the physical arrangements in classrooms, libraries and laboratories; students with VI often find the chairs, tables, books and other materials disorganised. In general, the responses from student participants confirm that the buildings where classrooms and laboratories are located at AAU do not meet the safety needs or the free movement of students with VI.

In addition to the inaccessibility of buildings, students with VI encounter a shortage of educational materials adapted to their needs at AAU. Regarding the problem of accessing adaptive educational materials to students with VI, the following responses were made by participants in all groups:

*As to the teaching-learning materials is concerned, handouts, worksheet, course outlines and others are, for instance, given to us in hand written form, not written in Braille or recorded on a tape recorder. Some lecturers, for instance, two lecturers in the department of law have given us handouts on a softcopy. This is again done because of the willingness of lecturers, not because of rules disseminated from the university. ... Most students with VI do not know how to read and write on Braille. ... For instance, as there is scarcity of reference books in the library, there is a situation in which we get the chance to read the books for only an hour. This creates a critical problem on us to read by the support of our readers. It will be good if we get the books through audio or copied on Braille. It was possible to do, but as there is no positive attitude in the university we are exposed to problems (SI Participant 1). Most students with VI who learn in regular government schools did not learn how to write and read on Braille, and as a result they have difficulty in using it. Thus, these students learn by listening to the lecture or by recording it using a tape recorder (GI Participant 3).*

*I also know that students with VI have problems in accessing curriculum materials as well as physical environment and facilities. As to those problems, it is also my issue. ... If there is a requirement to fulfil and provide those things to students with VI, it needs additional labour, time, resources and budget/money. It would have been better to admit the students with VI after these things had been ready ahead of time. For instance, if I am asked to teach the students with VI by changing my lecture notes into softcopies or recording them on a tape recorder, it will*

*be a burden on me as there are no materials, place and time. From the beginning, there is not any attractive situation in the university that enables us to support students with VI (LI Participant 1).*

*The critical problem in ensuring the full participation of students with VI in all aspects of higher education is the failure to provide suitable teaching materials to them. Although the disability centre is established for this purpose, it does not perform as such a good job (LI Participant 2).*

*As to me, one of the problems is scarcity of resources to give handouts for students with VI (SMI Participant 2).*

*Scarcity of resources is one of the problems that I face while trying to make students with VI fully included in all activities in higher education. For instance, when lecturers in my department give handouts, they just give the written materials. In my opinion, the handouts should have been prepared using Braille and distributed to students with VI. As there is no Braille paper in our department, lecturers cannot make their handouts accessible to the students with VI on Braille (SMI Participant 1).*

Most respondents from all groups of participants agree that the shortage of adaptive educational materials and supportive technologies is one of the critical challenges to the inclusion of students with VI at AAU. As the above responses illustrate, basic educational materials, such as course outlines, handouts, worksheets and references are supplied to students with VI in a written form only. Some lecturers do provide their course materials in the form of softcopies. This concession is made through the good will of individual lecturers since the university does not require lecturers to do so. Other than some volunteers, the majority of lecturers are not able to supply their educational materials in Braille, in audio-recordings or in soft copies other than in writing. Some students and lecturer participants also maintain that most students with VI cannot read and write in Braille since they had not been trained in these skills at their primary schools or at the university. Students with VI and their lecturers at AAU cannot access course materials in Braille. As a result, students with VI are obliged to receive information orally only. Another serious challenge for students with VI is the failure of lecturers to supply their course materials in soft copy or recorded format owing to their negative and unwilling attitude. As both respondents from lecturers and manager groups mention, the absence of incentive mechanisms for lecturers as well as the shortage of materials and financial resources are the main reasons why lecturers are reluctant to prepare their course materials in soft copy or recorded format. The failure of the university to purchase supportive technologies is another reason why educational materials are not provided to students with VI at AAU.

As far as the shortage of supportive materials and technologies is concerned, respondents from

all the groups made the following comments:

*Concerning the provision of supportive materials and technologies, it is generally possible to say they are unavailable. Very limited material resources, I mean reference materials prepared in the form of softcopies are available in the audio material centre. As this is again not provided for all students with VI, it is totally better to say there are not supportive materials. ... we know that there are two embossers and scanner in the disability centre. Nevertheless, as there was no expert assigned, the materials were put without giving service to us. We are not even getting training on how to use them. There are also computers with JAWS software as well as walkman and digital recorders in the audio materials centre though these are insufficient. Other than these materials, supportive technologies, such as Braille typewriter, talking calculator, abacus, etc. are not available in the university. ... As we will compete with sighted peers after we graduate, it is really very challenging for us if we don't get services through supportive materials and technologies in the university. ...When we ask the university to make it functional, as they are unwilling and lacks positive attitude to us, we cannot use the digital centre properly (SI Participant 1).*

*For 2013-14 entry students, they were not given as there was scarcity of tape recorders. As the recorders in the audio centre/library are very few in number, only senior/graduating students have the access to use them. They are not allowed for freshmen students. ...there are nine computers loaded with JAWS software available to the students with VI in the main library. We have the possibility to use them in turn, but others may not get the chance to use them. In addition to the scarcity of computers, first year students with VI cannot use the computers as no training is given to them. It is said that there are scanner and embosser in the disability centre, but we do not get any service saying that there is no expert to serve us. Of course, six ream of Braille paper for senior and three reams for fresh students with VI are given per semester from the centre. The Braille writing materials (a slate and styles) were given once when we joined the university. They give cane for those who choose it instead of getting a slate and styles (SI Participant 2).*

*... Moreover, a centre on audio material having nine tape recorders is established in the library. However, it is not functional because no expert is assigned. There are also nine computers in the Kennedy Library, but no e-books are loaded in them. Except three Amharic poems on CDs in the university, there are no other course materials in CDs. The information that we get from others is that there is software which is called screen reader that enables us to listen to any writing on a computer. These things are not available in the university. ... The Braille paper which is found in our country is thick and we also get some from the university, but it needs force to use with our hands (manually). It needs force to use stylus and slates. There are also few students with VI who can write and read on Braille. The students who use Braille are those who learn their primary education in a special boarding school (GI Participant 3).*

*Inability to address the issues of access by means of adaptive facilities and technology should be the focus of AAU (LI Participant 1).*

*The assistive materials you mentioned are not provided to them at the department level because no budget is assigned for that purpose from the university. ...What I have been thinking in my mind is that asking the concerned body to purchase a technology that can change writings into oral as well as a machine that can change information from Braille to writings and vice versa. I was unsuccessful, although I asked the management to purchase the technologies and benefit the students with VI in our department. The other problem is that we did not get a training that enables us to use the machines and technologies. ... At least if we can read and write on Braille, we can read what they have written on Braille. Although lecturers want to get such kind of training, it cannot be implemented as it needs budget and trainers. The other problem is that we have a lot of income generating activities other than our regular work so that we face a shortage of time to attend capacity building programs. ...our effort was not fulfilled because of shortage of time and budget (SMI Participant 1).*

*One of the problems students with VI raise is shortage of books in the library. They said that lecturers do not make available books and handouts in softcopies. Of course, there are some volunteer lecturers who reserve in softcopies. However, I doubt that how far the e-resources they reserve are directly related to what students with VI are learning. There might be a problem in relation to this. ... Regarding the supportive materials, such as computer screen reader and embosser, it is the disability centre that should make ready to students with VI (SMI Participant 3).*

It was discussed earlier in Chapter 3 that most of the challenges in inclusive setting arise from the shortage of assistive materials and technologies. As seen from the above responses from respondents in all groups, the shortage of supportive technologies is a great challenge to students with VI at AAU as well. Most respondents from student, lecturer and management groups similarly noted that most of the typical supportive technologies which serve students with VI are not available at AAU. On the other hand, a few respondents from student and management groups acknowledged that the disability centre at the university provides assistive materials, such as tape recorders, slates, styluses and Braille paper to students with VI. They also indicated the availability of 10 and 13 computers with JAWS software in the main library and the library of the law school respectively. However, most of the respondents from the student group complained that the Braille paper and other materials supplied by the disability centre every semester are not sufficient for their actual needs. The respondents also criticized the services provided by the centre which does not allow students with VI to use the materials there. The reason is that no expert is available to serve and train students with VI to use the technology in the centre and other resource rooms.



Even though the university has established two computer centres which have tape recorders and computers with JAWS software, most students with VI could not benefit from them. Since the number of recorders and computers is not proportional with the number of students with VI, only the senior students with VI have the opportunity to use the technology in the centres. In addition, the computer centres do not fully serve students with VI because the university does not assign maintenance personnel to repair defective machines or provide training to students on how to use the technology. In general, both the findings from prior studies (see 3.3.4.2) and the responses from student, lecturer and management groups reported that the inaccessibility of adapted and assistive materials and technologies is one of the critical challenges for students with VI. One of the basic reasons for the inaccessibility of adapted materials and assistive technologies was the scarcity of financial resources at the university.

#### **5.4.9.3 Lack of financial resources**

As mentioned above, one of the contributing factors for assessment-related problems and the inaccessibility of physical materials at AAU is the shortage of financial resources. The responses of most participants from all groups demonstrate that the lack of adequate funding is one of the biggest barriers to the inclusion of students with VI at AAU. In this regard, most respondents expressed their views as follows:

*...the university does not assign adequate budget for students with VI. ...120 birr is given for all students with impairments as an allowance monthly. ...If this disability allowance was assigned to cover our additional educational expenses, it would not be enough. For instance, if we want to record any writing on a cassette, we pay more than 30 birr. When we ask the readers to read written materials for listening or recording, they ask us to pay them a better payment. For this reason, the 120 birr that is given monthly is not comparable with the expenses the students with VI spend on recording materials and for their peer-readers....Other than the monthly allowance, the university allowed to pay for only the readers of our final examinations. It is only 15 birr per hour that is allowed to pay exam readers from the university. This is again incompatible with what the exam readers ask us to afford them (SI Participant 1).*

*...we are given 120 birr allowance per month, which is used for the purpose of keeping our hygiene. The allowance given is the same for both female and male, which was decided eight years ago. Today, the price of materials becomes expensive, but no adjustment on the allowance is made. The other thing is that we are given money to pay for readers, but as it is not enough it is only allowed for final examination.*

*Whenever we have tests and mid-exams, we cover the readers' expenses by ourselves. ... The other main problem for us is to ask sighted students read the materials and record them. The readers ask us to pay them 25 birr to tape the written material for an hour. ...the university does not afford us the finance for such purposes. We asked the university to solve our finance-related problems mentioned above, but there is no response till now (SI Participant 2).*

*... Some of them have economic problems. Everything also costs them more than the sighted student. ... That is right because it is difficult to get invigilators/readers for 15 birr per hour. This can be solved by the university, not by the lecturer (LI Participant 1).*

*To put it in a nutshell, the university should do what should be done for students with VI considering that they are learning in inclusive education and realizing that there are problems in relation to budget, place, material, and time management (LI Participant 2).*

*As no budget is allocated, we also never ask lecturers to prepare and provide supplementary materials to students with VI. To do this, there is no budget allocated to us for such purposes from the university. ... However, our negligence not to ask the university to allocate budget for such purposes is really a mistake and we should correct it in the future. ... It is also clear that the peer tutor support they get from volunteers does not continue for more than one time. Even no budget is available in the department for students with VI to pay for those who read examinations. ...We even do not know how much money is paid for the readers of examinations. We did not ask the university to allocate us the budget to pay for examination readers at the department level (SMI Participant 1).*

*... Although they can record or take down notes on their Braille, they couldn't get material or financial support from their department. They also need someone to read the written materials given to them. Similarly, there is no doubt that those who read the material to them ask for payment per hour. Whatever it is, the problem is financial one. Hence, we do not have budget to pay for that. ... The main problem is that there is no earmarked budget for students with VI at college or department level and there is also shortage of budget (SMI Participant 2).*

*... there is no refusal to assign budget. if a department asks for budget allocation to prepare and reserve materials in softcopies for students with VI. Departments present this as a problem but they do not ask for budget allocation. Faculties are not contributing their share to respond to the questions of students with VI. That means they do not prepare and ask budget to solve the request of students with VI. ... In comparison to other universities, the payment is less in our university because the number of students with VI is very high and it will be difficult to pay like the other universities. The number of students with VI in the other universities may be five and ten, but there are not less than 200 students with VI in our university (SMI Participant 3).*

Most respondents from all groups indicated that AAU does not allocate adequate funds to provide assistance for students with VI. As some student participants in group and individual interviews assured, students with VI receive 120 birr (around US \$6) per month as a disability allowance.

Students with VI and their lecturers did not know by whom and for what purpose this monthly allowance was determined. In other words, no-one consulted students with VI or their department heads when the university decided on the amount of the monthly disability allowance and the payment for examination readers. Therefore, most respondents indicated that the budget allocated by the university is incompatible with the money that students with VI need to pay for readers in examinations. The monthly allowance for students with VI and the money available to pay examination readers is not sufficient as the respondents from all group reported. As a result, students with VI are obliged to cover the additional expenses and other expenses, including the costs of reading and recording written materials from their own pockets. Even though students with VI have requested the university to allocate reasonable funds for their additional expenses, neither the department heads nor the lecturers have responded as yet.

As discussed earlier in Chapter 3, the provision of inclusive services to students with VI is deteriorating in developing countries owing to the absence of adequate funding. Similarly, no-one is willing to address the financial needs of students with VI as there is no clear and binding regulation for this at AAU. The other reason for the university not properly responding to the finance-related questions of students with VI was the absence of clarity about the responsible body for requesting or allocating the budget. The absence of concern of lecturers to access funds to cover the additional expenses of students with VI is a unique challenge at AAU. The lecturers were not willing to undertake the responsibility of finding funds for students with VI, believing this to be the obligation of the university rather than the lecturers. On the other hand, the heads of departments were not able to solve the problems either by requesting additional funds or by using the allocated budget since they expected funds to have been earmarked in the budget for assisting students with VI. Participants from all groups maintained that the absence of adequate funds was a critical challenge that all students with VI faced at AAU. As a result, students with VI encountered several barriers to their inclusive learning and social interaction within the particular context of AAU.

#### **5.4.10 The social circumstances of students**

It was mentioned earlier in Chapter 2 & 3 (see 2.3.1.4 & 3.2.8) that higher education institutions have a responsibility to ensure the social inclusion of students with VI by enhancing their social relations with sighted students in campus life. It was also noted that challenges associated with the social problems of students with VI can affect their social potential and feeling of

independence. Accordingly, students with VI face some problems at AAU because of their social circumstances. Respondents from the student group made the following remarks on the challenging conditions associated with the assignment of dormitories, recreation rooms and the dining hall for students with VI on the basis of their impairment:

*... What they do regarding dormitory is that they assign eight students with VI together in one dormitory (SI Participant 2).*

*... For example, eight female students with VI are assigned in our dormitory separately (GI Participant 2).*

*As far as dormitory is concerned, four male students with VI are assigned in a dormitory which is good. I said the dormitory placement is good because all of the four students with VI can help one another by listening recorded materials without disturbing other sighted students. We can also use all the sockets available in the dormitory for our purposes. ...I also choose for students with VI to be assigned alone in each dormitory. My reason is that we usually use tape recorders although we can use ear phones. If we live together with sighted students, there can be a problem of using sockets (GI Participant 3).*

*Regarding recreational centres and facilities... We are given a separate small room where we can drink tea. This has been a common practice since many years back. The place where we have tea looks like a small kitchen which is narrow to accommodate if a lot of students with VI come at the same time. For this reason, there are some students who are entertained where they stand (SI Participant 2).*

*We also face problems when we go to dining hall. Although students with VI have our own dining rooms, the hosts there do not treat us well (GI Participant 4).*

The above quotations from student participants indicate that there is a trend where eight female or four male students with VI were assigned to a dormitory where there were no sighted students. Some student participants also mentioned that students with VI must use separate tea rooms and separate dining halls where they are served apart from sighted students. In fact, some student participants felt that the separate placement of students with VI in a dormitory is beneficial to them because they are able to use the power sockets for their tape recorders freely and can listen to their recorded materials without disturbing the sighted students. Students with VI preferred their separate placement because it enabled them to help each other. On the contrary, the findings presented in Chapter 2 and 3 criticize the separate placement of students with VI for having a disabling effect on their social interaction with the sighted ones. The unique practice of AAU in this regard is against the principles of social inclusion in particular and inclusive education in general.

In addition to their impairment, students with VI are challenged by other social circumstances that create partiality in getting support from others. The difference in religion is one of the socio-cultural barriers which create partiality among students with VI in getting assistance from sighted ones. In this regard, some student participants made the following remarks:

*The social and cultural situations that students with VI face in the university could be the cause to make us be successful or dismissed. Of the things we face because of our differences in religion, for instance, the protestant students help only those students with VI who are protestant by reading and recording written materials. Although there are protestant students with VI who got the chance because of the same religion he/she follows with the sighted student, we (another religion follower) do not get the support directly. This is something not created by the university, but it is the partiality created by the students who follow the same religion (SI Participant 1).*

*...because of a difference in religion some may be benefitted or not from those outside the university. For instance, those students who are followers of protestant get support, while those who are not followers do not get this chance (SI Participant 2).*

As seen from the above responses, students with VI face a partiality created by sighted ones because of their differences in religion. For example, two student participants illustrated that the sighted Protestant students created partiality by helping only those students with VI who follow the same religion.

As part of the socio-cultural circumstances, the difference in ethnicity or regions where they have originated creates a communication gap and behavioural barriers among students with VI at AAU. Some student participants illustrated the situation as follows:

*...there are also some students who help students with VI who only have a similar ethnicity. ...The region where the students with VI come from has also its own impact and difference on their academic performance. For example, those students with VI who come from Oromiya Region are somewhat better than the others in their academic performance as they learn in special boarding schools where they got the chance to write and read on Braille well. Those students with VI who did not get this kind of chance, for instance those who come from Amhara Region, are low academically. They do not read and write on Braille well. They are also in problem to cope with the new environment they learn and live in (SI Participant 1).*

*For instance, if we look at the place where we come from, those of us who come from Oromiya Region have no problem in reading and writing on Braille as we learn in boarding special schools. On the contrary, those students with VI who come from Amhara Region have some problems in reading and writing on Braille. They have a difficulty in communicating using Braille (GI Participant 3).*

*Those students with VI who come from boarding special school have no problems in interpersonal communication as they were living together. However, those who do not come from boarding special school have some problems in their behaviour as well as communication. There is even a misunderstanding between those of us who come from boarding special school and from other schools (GI Participant 1).*

According to the response of one student participant, there was a situation where some sighted students separately helped the students with VI who have a similar ethnicity. Besides, some student participants commonly confirmed that regional differences where they originated create divisions among students with VI in terms of academic performance, behaviour and interpersonal communication. For example, those students with VI who come from the Oromiya Region where boarding/special primary schools are available have no problems in Braille reading and writing, behaviour and interpersonal communication as they received special training where they lived together. On the contrary, those who come from the Amhara Region that does not have boarding/special primary schools have encountered problems in their behaviour and communication. As a result of differences in ethnicity and region, misunderstanding or communication gaps were evident between those students with VI who come from the Oromiya Region and from the Amhara Region. Since there is no intervention made by AAU to resolve the problems, the socio-cultural potential of students with VI from the Amhara Region is fewer than those of students from the Oromiya Region.

The other social circumstance that influenced the social inclusion of students with VI at AAU was their gender difference. Regarding the problems associated with gender variation, some participants made the following comments:

*There is a problem that we face because of gender differences. For instance, as there are a lot of things that are unfulfilled for female students with VI, some sighted male students approach them to help them, but they create problems on them. Although not many, there are few students with VI who are sexually abused. That means they are raped by those sighted male students who approached them to support academically. They are faced with this kind of problem without their interest. If they had been provided with financial and material support*

*from the university, they would not have faced with the problems mentioned above as they could manage what they wanted by themselves (GI Participant 2).*

*As long as gender is concerned, female students with VI especially face sexual harassment due to their sex difference. Pretending to support the female students with VI both students with VI and sighted male students attempt to harass them (SI Participant 1).*

*As to their sex, female students with VI face more difficulties than their male counter parts. Even students with VI have problems in identifying what should be done and not be done for them (LI Participant 1).*

As part of social circumstances, gender differences have created their own particular impact on students with VI at AAU. In particular, female students with VI have encountered more problems than their male counterparts as a result of their sex. It was apparent from the responses of both male and female students and lecturer participants that female students with VI faced sexual harassment at AAU. Since the university does not support and empower female students with VI, they have been harassed by their male counterparts that approach them to support them academically.

As the literature study in Chapter 3 demonstrated, students with VI should participate in extra-curricular activities and other social affairs together with their sighted counterparts in order to promote good social interaction. However, there is a trend at AAU where students with VI are treated in isolation owing to their impairment. In brief, the social circumstances, such as visual impairment, religion, ethnicity or region and gender differences that students with VI experience at AAU are the causes of unfair treatment during their social and educational interaction with sighted counterparts. They were especially disadvantaged when placed in the dormitories and served in tearooms and dining halls according to the differences in their socio-cultural circumstances. As a result of these differences in their social status, they faced difficulties in getting support from sighted students who displayed disparity in their behaviour and communication with them. Female students with VI in particular were sexually abused as a result of their gender difference.

In conclusion, the above data analysis and interpretation partly focused on the identification of the various challenges or barriers that students with VI face when studying and living in AAU. As stated earlier in Chapter 1, this study focuses on the identification not only of challenges but also possible solutions with the ultimate purpose of overcoming the challenges that students with VI face within the context of AAU. Although several solutions and intervention strategies were

highlighted in the legal or theoretical frameworks and the findings of prior empirical studies discussed earlier in Chapters 2 and 3, the researcher presented suggestions of participants which they thought would overcome the challenges identified above.

The next section will focus on the presentation and analysis of the qualitative data gathered from all the participants in order to answer the third research question of this study.

## **5.5 SOLUTIONS TO OVERCOME THE CHALLENGES**

The third secondary or sub-question of this study is: 'What solutions are available for AAU to overcome the challenges or barriers that students with VI face?' This research question informed the researcher to propose solutions for overcoming the challenges that students with VI face in AAU on the basis of the data gathered from all participants in the student, lecturer and senior management groups. With the aim of outlining the practical solutions from the perspective of each group of participants, the data is presented in three sub-categories.

The next sub-category presents the basic solutions that student participants suggested should be applied in the context of AAU.

### **5.5.1 Solutions suggested by student participants with visual impairment**

In the group and individual interviews with students, the respondents suggested various measures which the university should consider to overcome the challenges that students with VI encounter when learning and living in AAU. One of the primary solutions forwarded by some of student participants was accessing enabling and applicable policies and regulations that ensure equal opportunities to students with VI. In this regard, some respondents suggested the following solutions in order to remove the challenges to students with VI at AAU:

*What I would like to say in general is that it is good to solve all the problems that we stated. If you want me to mention in detail, the university should have a sort of workable regulation for our problems and fulfil the necessary materials to us. Instead of saying there are no materials that can have a negative impact on students with VI, it is better not to admit students with VI in the university (SI Participant 2). The other thing is that there should be a responsible body that is accountable to implement what is stated in the university legislation (GI Participant 3).*



*In general, there are no suitable rules and regulations to students with VI in AAU. What I would like to suggest to other students with VI is to join and learn in other better universities (GI Participant 1).*

It was mentioned in Chapter 3 that the inclusion of students with VI should be supported by enabling policies. To this effect, universities must have clear policy directives that address issues of access to students with VI. Similarly, one student participant mainly noted that AAU should have practical policies in order to resolve all problems of students with VI in general and to provide the necessary materials for them. The student participants suggested that AAU should put in place suitable and workable rules and regulations as well as a system to follow up the implementation with regard to the special needs of students with VI. Two student participants commented that if the university did not make changes accordingly, they should not enrol students with VI. One respondent suggested that students with VI should join one of the newly established universities that are making provision for the needs of students with VI with regard to accessing adequate material and financial resources.

The majority of the student participants maintained that the provision of material resources was the basic solution to removing most of the challenges that students with VI face at AAU. Most respondents in the individual and group interviews suggested the following concerning the accessing of adapted educational materials and assistive technologies for the inclusive learning and living of students with VI:

*I think the solutions for all the problems we have raised are known. That means to fulfil those needs that we expressed earlier, to make convenient those environments and facilities that are problematic to us, etc., can be part of the solutions (GI Participant 2).*

*...let the university provide us with desktop computers first, and then our own personal laptop. If the cost of new desktop computers and laptops is expensive, let the university purchase second hand which might be cheap and give us (GI Participant 1).*

*...supportive teaching facilities and technologies, for instance, laptop should be supplied by the university. ...For example, if the university supplies two desktop computers for four students with VI in each dormitory, it will support us a great deal. As ICT training is not given for students with VI while they are in high school, it is good to give a special training for them when they join university (GI Participant 3).*

*As mentioned earlier, there are different kinds of problems that we face, and we want those problems to be solved. Fulfilling the facilities by itself is not enough. For example, there are nine computers in the Kennedy Library, but to use the computers properly, training should be given to us as well as to those workers in the centre on how to manipulate them.*

*Furthermore, training should be given to us on how to use a calculator, cane, and how to move inside the campus by those people who have the skill and experience. Training is important for those students with VI who don't know how to read Braille and write on it. Written materials /published materials should be changed into Braille and CD and made available for students with VI (GI Participant 4).*

*The possible solution that I suggest to minimize the problems and obstacles students with VI face is to enable us get educational materials in softcopies using scanners instead of giving Braille papers. To put it in a nutshell, it will be better to create a situation by purchasing embossers and other technologies and train us on how to use them. What is expected from the university to do so is providing us computer training. If they do this, we may stop finding sighted friends to read the written information for us. It is important to give computer training for students with VI for one or two months after admission because we did not take IT training when we were grade 11 and 12 students. ... If this is not possible, they can provide us the budget and we can take the IT training by ourselves ... (SI Participant 1).*

*As to me, if AAU accepts us as members of the university community, it is unfair to supply materials for sighted students in the library while they do not fulfil the materials in Braille or softcopies for us. Similarly, they should purchase computers with JAWS software and provide us. If they are unable to establish a suitable library to us, they can, for example, support us by putting four or five computers with JAWS software around the dormitories of female students with VI. I said this because the university has bought computers for sighted female students and created the opportunity for them to use around their dormitories. Therefore, it is good to purchases computers with speech outputs or software and creates the opportunity for female students with VI to use in the night as well as in their spare time around their dormitories (SI Participant 2).*

Most student participants said that students with VI should receive the necessary educational materials in alternative formats, such as soft copies and Braille. The university should supply adequate recorders, Braille materials, scanners, embossers, computers with speech outputs and other technology to students with VI. Some respondents suggested that the university should also make some computer with JAWS software and personal laptops available in the dormitories to create opportunities for female students with VI to use at night. As most students with VI are not in a position to use the technology, it is crucial to provide them with special training in IT when they join the university.

The respondents also suggested that students with VI could undergo computer training by themselves if the university covered the cost. Similarly, as there are many students with VI who cannot use Braille materials and canes, they should receive training by experienced and skilled

persons at the university. Generally, access to adapted materials and technology as well as training on how to use them was commonly evident in the responses of a majority of student participants to enhance the inclusive learning of students with VI in AAU. The above suggestions made by most student participants about the provision of material resources and technology were supported by the responses from lecturer and senior manager groups as well as by the findings from prior empirical studies (see Chapter 3).

It was mentioned above that the absence of adaptive materials and assistive technologies is closely linked to the shortage of knowledgeable, skilled and dedicated manpower at the university under study. With the purpose of addressing this problem, most participants from the student group suggested the following solutions:

*... There should be someone who follows up the students with VI. For instance, there might be some new students with VI who come to the university without a cane. There should be someone who can find solutions for these kinds of students. The lecturers and administrative workers*

*in the university should be given awareness raising training on students with VI. ...The expert that is assigned in the centre should be not only a person with disability but also someone who has got training on the disability he/she is assigned for. For instance, someone who is assigned to support the students with VI should take training on this impairment (GI Participant 3).*

*...it will be good to assign an expert with VI who can understand our problems and support us well in addition to the one who has already been assigned in the disability centre. If possible, it will be nice if office workers with VI are employed and support us permanently in each department. In addition to this, it will be good to assign a psychologist who can give us guidance and counselling service. ... Our lecturers can also assign one of our sighted classmates to help us permanently. Our classmates can be assigned to help us by reading different written materials (SI Participant 1).*

*...if an expert with VI is assigned in the university disability centre, we can get a much better service as he /she may have a positive attitude towards us and understand our problems (GI Participant 1).*

*... I think that assigning an expert with VI not only in the disability centre but also in each department can minimize the negative attitudes that exist in the university (GI Participant 2).*

*...Especially, the university management should attempt whole heartedly to make the university instructors change the negative attitudes they have towards the students with VI. The management should also follow up whether there is a change or not in the way the university treats students with VI (GI Participant 4).*

*I think that a lot of problems can be solved if lecturers as well as others*

*are made to have the awareness and make their approach and materials suitable to students with VI. Lecturers should also assess whether what they are presenting in the class is convenient to the students with VI or not. ... As writing a senior essay for graduation is difficult to us, I also suggest replacing the senior essay by another course or it is good to evaluate us by any other means. ...If we get reference materials in such a way that they are suitable to us, doing research may not be difficult to us. It is also good to give us the handouts on the course 'Introduction to Research' before we take it (SI Participant 2).*

The above responses revealed that a responsible body at the university who would be accountable for the education and well-being of students with VI should be appointed. Most respondents recommended that all university staff that provide services to students with VI should display positive attitudes towards visual impairment. Some respondents uniquely noted the importance of assigning experts with VI to the disability centre or departments since they can understand the problems of students with VI and then provide them with support. They also suggested the assignment of special experts who would provide them with mobility training and guidance and counselling services on a regular basis. In addition, the university management should attempt to change the negative attitudes of the academic staff towards students with VI. Student participants suggested that lecturers should be trained in the use of technology to make their instructional materials suitable for students with VI. Lecturers can assign peer tutors from the class groups to support students with VI by reading written material to them. If personal readers and adapted references are not accessible, lecturers should replace the senior essay course with another course or evaluate students with VI by other means. These responses from student participants were consistent with those from the lecturer and senior manager groups.

As findings from prior studies (see Chapter 3) indicate, students with VI are at liberty to hire their own personal readers but this needs financial arrangement by the university. As discussed above, the provision of adapted materials and additional support from personal assistants needs the allocation of funds from the university. In order to address the problems of students with VI in terms of finance and other resources, different respondents made the following remarks:

*We know those newly established universities are doing better than AAU for their students with VI. For example, it is said that Hawasa University affords about 1000 birr monthly allowance per student, whereas AAU, the oldest one, gives us 120 birr. We can also be successful if financial support is given by the university. If sufficient budget, for instance, 1500 birr per month is assigned to us, we can employ someone to read materials to be successful. Furthermore, it is good to let students with VI*

*learn on the ground floor instead of the upstairs (SI Participant 2).  
 What I would like to suggest to other students with VI is to join and learn in other better universities (GI Participant 1).  
 The roads should also be repaired in such a way that they do not create problems on us (GI Participant 4).  
 ...The other thing that the university should made is that let us get the information they post on a notice board thought alternative formats, such as Braille, audio-material and email (SI Participant 1).  
 As to the choice of department by students with VI, it will be good to give the opportunity for them to be assigned in a department by their first choice (GI Participant 3).  
 I think that it will be good for AAU to have a meeting with students with VI every three or four month to discuss with the problems we face and whatever ideas we have (GI Participant 8).*

The above responses indicate that the money provided by the university to students with VI as a disability allowance is very small even when compared with that of other similar universities in the country. One respondent suggested that students with VI should enrol at other universities rather than AAU because of its minimal disability allowance. On the other hand, one respondent proposed that AAU should raise the disability allowance from 120 birr to 1500 birr based on what is provided by other universities. The respondents also suggested that AAU should allocate sufficient funds to students with VI for the hire of personal assistants and readers as well as to pay for their additional material needs. The alternative suggestion made by one respondent is that the university should directly provide written material to students with VI in alternative formats, including Braille, audio-materials and email. Besides, the respondents suggested that students with VI should be allocated to classrooms on the ground floor of buildings rather than using the classrooms upstairs. The roads should be repaired by the university so that they do not impede the free movement of students with VI. It was also suggested by respondents that students with VI should get the opportunity to be assigned to departments according to their first choice. Finally, student participants suggested that the university should arrange a meeting with students with VI every four months for sharing ideas about the problems they have. All the above suggestions were made by student participants in order to tackle the resource-related challenges of students with VI at AAU. Their suggestions are supported with those from other participants from the lecturer and manager groups as well as the findings from prior studies (see Chapter 3).

### **5.5.2 Solutions suggested by lecturer participants**

Lecturer participants forwarded some suggestions which they thought very important to alleviate

the challenges to both students with VI and their lecturers at AAU. Developing and implementing enabling and binding policies is evident as one of the key solutions for lecturer participants. According to the suggestions made by lecturer participants, the university should have a clear policy or regulations which guide the inclusive services to be supplied to students with VI.

They made the following suggestions on policy-related matters:

*Indeed, if we say that students with VI should learn in inclusive education of AAU, there should be a clear thing in the policy that can facilitate situations. ...There should be rules and regulations as well as orientation to the university staff and the students with VI themselves on what they should do or their responsibilities. ...The university and government should decide clearly what should be done for them as citizens, not by the willingness of individuals. For instance, there should be a well thought over rules and regulations on how we can support students with VI, how their examinations are treated and how much extra time should be added during examinations. The university should include the aforementioned issues and make them clear to the performers. The incentive that will be given to lecturers when they support and evaluate students with VI in their extra time should be clearly stated in a regulation and implemented accordingly. It is possible to bring a change if this idea is implemented skilfully, for instance in the form of overload (LI Participant 1).*

*... For instance, a notice that is sent from the centre to our department read as: 'please, send us the teaching material that you use in a softcopy if you have'. I think asking like this means to me that preparing the teaching material in a softcopy for students with VI is a humanity activity. If we lecturers perform this kind of support, we should be given incentives. ... It is better to let us do what we should do, and let the students with VI know their rights, support them like others, allocate them enough budget, and encourage them to do what they can do by their own. It is not by begging us, but we should be made to perform what we should do by letting us know how much we will be paid openly. If additional payment is arranged for us, we lecturers are ready to carry out what we should do (LI Participant 2).*

It was apparent from the responses of the lecturer participants that the university should have a clear policy which facilitates the inclusive services available to students with VI. There should be clear rules and regulations on how students with VI should be treated at the university. For example, the university should set out and implement clear procedures on how lecturers can support students with VI with regard to how their examinations are conducted. Similarly, the university should clearly state in its legislation how lecturers should act when they support students with VI in their own time. After developing a system on how they will be remunerated for their extra work, the university should allocate sufficient funds to pay them for the extra work that

they do instead of requesting them to support students with VI voluntarily. Generally, the establishment of clear policies and regulations is the key solution to treat students with VI properly and to motivate the lecturers who may support the students in their extra time. This finding was supported by suggestions made by student and manager participants and the findings from prior studies as described in Chapter 3.

It was discussed earlier in Chapter 3 that both international and local legal frameworks about inclusion should be regularly introduced to the bodies concerned to ease their implementation in higher education institutions. The inclusive policies and regulations that AAU sets out should be disseminated to its staff and the students with VI by means of regular orientation and capacity building training. In this regard, the lecturer participants made the following suggestions:

*...the university's management as well as academic staff should be oriented about everything that is put under the international agreements, national rules and regulations, and theoretical principles for students with VI. Based on this, it is possible to gradually overcome the challenges that students with VI face in the university. ...To make students with VI highly benefitted from inclusive education, lecturers who teach them should get first hand training at the faculty or department level. Lecturers should be trained on issues such as how they teach and what do they use to teach the students with VI. ... There should be a kind of system and training or orientation that should be given to the lecturers on how to make accessible lectures, assignments, assessments, etc. to the students with VI. ... In addition, there should be training for university staffs and students with VI on how to use the facilities and technology effectively. For example, instead of assigning a third person to invigilate students with VI, it is good to give training for students with VI and their lecturers on how to use Braille so as to perform it by themselves. ...For example, it is possible to give training for staffs and students on how to use Braille so as to let them communicate through that means (LI Participant 1).*

*...creating awareness should be the first measure that should be taken. ...we lecturers should be oriented and get training on what kind of rights do students with VI have and what things we should do for them by the university. ...What the university should give immediate solution is that first of all, all the university community including lecturers, and administrative workers should be made aware of about inclusive education and how to handle students with VI. The students themselves should be made to discuss and know what they should do when they join the university, and the kind of support they will get. ... It is also good to conduct timely discussion between the management and lecturers. The tendency is simply sending the students with VI to us. This kind of system is not good, and it should be improved. Until we reach at a consensus on these matters, I think that the training and orientation should continue. If lecturers also get training on how to use Braille, they can at least get the opportunity to correct their students writing by their own. We are ready to*

*do if we get training on how to use teaching materials in Braille and softcopies as well as if extra payment is arranged for the extra time that we will spend. We are also willing to get training on some other supportive technologies. If we get anybody to inform us about the use of those technologies, we can serve students with VI well (LI Participant 2).*

One lecturer respondent briefly mentioned above that the university should orient the management and academic staff about everything which should be done for students with VI in the light of the international and national legal frameworks and theoretical principles to ease the implementation processes at AAU. According to the responses of the two lecturer participants, both students with VI and their lecturers should receive orientation and training with regard to the rights of students with VI and the obligations of lecturers and the university to guarantee the rights of the students. In particular, AAU should provide regular training and orientation to lecturers about the provision of support for students with VI with regard to their lectures, assignments and their assessment. They also indicated the importance of accessing special training for lecturers and students with VI on how to use supportive technologies, including Braille writing and reading. They felt strongly that if lecturers and students with VI received training on how to use Braille, they could avoid the use of readers during examinations. Their ability to use Braille would help both parties to resolve the problems they raised earlier and create the opportunity to communicate through Braille. It was also suggested by the respondents that timely discussions between the lecturers and management should be conducted instead of simply assigning the students with VI to departments.

In general, it was found to be very important to familiarize the staff and management of AAU about their duties to ensure that the rights of students with VI were upheld. It is also valuable to arrange regular discussions and training for the staff and students with VI on how to access instructions, assessments and educational materials and technologies. They stressed the importance of providing training in the use of Braille for students with VI since this would be a unique way of assisting them at university level. All the suggestions made by the lecturer participants supported the findings that emerged from the interviews with student and manager participants.

In addition to creating awareness and training opportunities, the lecturer participants further indicated the accommodations that should be made for students with VI and the responsible bodies at AAU. For example, the respondents from the lecturer group suggested that the disability centre is primarily responsible for providing special support to students with VI and their lecturers



at AAU. The respondents made the following suggestions about the roles and duties of the university and its disability centre:

*After the awareness and training, the curriculum materials and facilities should be made accessible and make adjustments little by little for students with VI. ... It is unfair to urge the lecturers to do this and that. This can be applicable for those who do humanly. Hence, the university should do something considering the students with VI. I heard that if we present the written notices in the form of softcopies on a computer which is loaded with JAWS software, they can read them. This kind of adjustment should of course be facilitated by the university, not by lecturers or at the department level. What is expected from us is informing the issue to the university and we will do it. Perhaps, the university can use the disability centre and fulfil the necessary things and let us know how to manage them (LI Participant 2).*

*...As we are using modular curriculum, we implement a lot of continuous assessments. This requires students with VI to use readers a lot which again makes them increase the expenses they pay for readers. To solve this problem, it is not me, but the university should consider their problem and allocate sufficient budget. ...The disability centre should have prepared a budget to make ready materials in softcopies or Braille for students with VI instead of begging us to do so. ... However, this centre has brought no changes for the students. Thus, it is good to restructure it so as to make it provide genuine service for students with VI. To solve the problems raised by me as well as the students, a project should be designed and implemented by the centre. Especially, the centre should be made empowered and accountable to make students with VI get the maximum service to be successful both academically and socially (LI Participant 1).*

The above responses indicated that AAU should use the disability centre to provide the necessary educational materials and technology to students with VI instead of requiring that lecturers and departments should do so. For example, the disability centre should make adjustments to educational materials by changing the written information into soft copies and in Braille as well as providing training for students with VI and their lecturers on how to write and read Braille. The respondents also recommended restructuring the disability centre since it had made no changes to assist students with VI and their lecturers. Furthermore, the centre should be empowered and accountable to make students with VI successful both academically and socially. In addition the respondents suggested the involvement of other professionals and peers to supply the necessary support for students with VI at AAU.

As far as the role of the other university facilities is concerned, the respondents made the following suggestions:

*There should be someone who is responsible to make books, teaching aids, etc. ready in softcopies or record them for the students with VI. To be brief, students with VI in AAU have a lot of challenges. As they are surrounded by plenty of challenges, there should be an assistant who gives them constant support. ...There should also be someone who can help them in their mobility as there are problems they might face while they are walking on the road and going up and down stairs. ... As it is difficult to advise students with VI to write the senior essay, it is a problem to get willing advisors for them. Hence, it is good to try to substitute another course for the senior essay. If possible, it is preferable to have assistants for lecturers during correcting term papers and assignments to ease the burden of the lecturers (LI Participant 1).*

*... Sometimes the classroom where students with VI learn is situated in the last upstairs. To help them manage this difficulty, I think that someone who guides them the way to there should be assigned permanently. ...it is necessary to assign classrooms preferably in the ground floor which are convenient for students with VI by discussing the issue at the faculty or university level. It is also good to gather university lecturers and discuss with them what they should do for students with VI. ...The university can also use special needs teachers and make students with VI get whatever support they should get. ...The other thing is that some of students with VI misbehave in the university as they come from boarding special schools. If they get guidance and counselling from psychologist, it helps those, especially who show deviant behaviour, to improve their behaviour. It is also relevant to run a participatory discussion among lecturers and administrative workers to make those who have negative attitudes towards students with VI change their attitudes and support them (LI Participant 2).*

According to the above quotations from lecturer participants, AAU should use lecturers who have qualifications in special needs education to support students with VI. In addition, the university should assign psychologists to provide guidance and counselling services to students with VI in order to improve their deviant behaviour. The respondents also suggested that AAU should conduct discussions with lecturers and administrative workers to change their negative attitudes towards students with VI. If the negative attitude of lecturers is improved through such discussions, the problem of finding advisors willing to assist students with VI in the senior essay writing courses would be resolved. As the respondent maintained, assigning assistants to lecturers for correcting senior essays and other term papers of students with VI is preferable in the context of AAU. Alternatively, it would be helpful to substitute the senior essay with another

course to ease the burden on the advisors. The two respondents unanimously proposed the assignment of peer tutors or personal assistants who can regularly support students with VI in accessing educational materials and guiding them while they are walking on the roads and when using the stairs as they are confronted with many challenges. It is also necessary to provide financial support to students with VI to cover their additional costs, including the expenses for examination readers.

Students with VI should get the necessary training and support from disability centres, as well as the professionals and sighted peers at AAU. This suggestion is consistent with the suggestions of participants from student and management groups as well as the earlier findings in Chapter 3.

### **5.5.3 Solutions suggested by senior manager participants**

The participants from the manager group also believe that the challenging conditions should be changed in order to better serve students with VI at AAU. They felt that AAU must take measures to improve the existing situations that affect the inclusive education of students with VI. In particular, the respondents from the management group highlighted the importance of clear and enabling policy frameworks and procedures to resolve the challenging problems that students with VI face at AAU. Therefore, they made the following suggestions:

*If there is not anything mentioned clearly in the university policy and legislation to solve the problems and challenges mentioned and make students with VI benefitted, it is crucial to improve this. It is not enough by itself to put as a policy. I think what is essential is to put into practice what is stated clearly in the policy (SMI Participant 2).*

*It is relevant to have a systematic procedure or rules and regulations and regularly discuss on the kind of support and additional services that should be provided to students with VI (SMI Participant 1).*

*... It is important for the university to make students with VI and all the university community be aware of what they should do in relation to the inclusive policy and practices. If there is the need, information on inclusive provision should be disseminating through broacher (SMI Participant 3).*

As suggested by prior studies (see Chapter 3) and participants from the student and lecturer groups, it was apparent from the responses of the management group that AAU should have clear policies and systematic procedures which would help to resolve the existing problems and provide additional support for students with VI. As indicated in the responses above, the development of

clear policies and regulations is not the final result. It is imperative to implement what is stated in the policy to address the challenging problems of students with VI. In order to implement the policy and regulations effectively, the university management should inform the entire university community by making regular discussions and disseminating information through brochures. In addition to familiarising the university community about inclusive policies and practices, it is crucial to provide regular training for the lecturers and others who have responsibilities to serve students with VI at AAU. In this regard, two respondents from the manager group made the following suggestions:

*Most of the problems are related to lack of knowledge, and therefore, giving orientation for all lecturers is the primary solution. Training should be given on how to treat/handle students with some kind of disabilities, including visual impairment. ...Lecturers are expected to enhance their interpersonal communication with the students with VI to have trust in them. ...It is necessary to organize trainings and create the opportunity to discuss on what students should do and how they can gain additional support from peers and lecturers. ... Awareness should be created to tell them the fact that students with VI should be willing to work hard (SMI Participant 1).*

*As to me, one of the possible solutions that I presume is to enable everybody to understand the issues related to disability and what their special needs are. Secondly, to let students with disability indicate the kind of disability they have whenever they fill in any kind of slip/form in the university. For example, when the placement of students with VI into departments is on progress, adjustments can be made if their needs are clearly known (SMI Participant 3).*

It was stated earlier in Chapter 3 that staff development has become an essential factor that universities should use in their specific circumstances for ensuring the successful participation and inclusive learning of students with VI. This finding supported the suggestions made by participants from the management group. Implementing orientation and training for all lecturers is the primary solution for resolving the problems attributed to a lack of knowledge on how to handle students with VI at AAU. The university should organize training and awareness programmes for the lecturers and students with VI in order to enhance their interpersonal communication and interaction. The training should create the opportunity to discuss what students with VI should do and how they can receive additional support from peers and lecturers. It was also found necessary to let students with VI indicate the kind of disability they have whenever they complete any forms at the university because adjustments can be made when their placement is made. All in all, the responses of senior managers indicated that the provision of awareness creation programmes

and training for everybody should be in place to understand the issues related to visual impairment and the possible measures to be taken in order to meet the special needs of students with VI at AAU. Since most of the problems of students with VI are caused by the absence of the necessary resources, the respondents reminded the university to make changes to the provision of the human, material and financial resources that are vital to meet the special needs of students with VI. Respondents from the management group made the following suggestions regarding the provision of human resources:

*... In those departments where there are a lot of students with VI, an assistant who is an expert in visual impairment should be assigned for the department head (SMI Participant 1).*

*To make the policy practical, the problem of resource should be solved. ...Especially, instead of asking students with VI to bring examination readers by themselves, I prefer the university to assign reasonable and ear marked budget and give the mandate to departments to assign readers (SMI Participant 2).*

As far as the above first quotation is concerned, an expert in visual impairment should be assigned to each department where students with VI are placed. The second quotation indicates the importance of assigning examination readers by the departments rather than requiring students with VI to find them. It is also found necessary to allocate adequate and earmarked funds and to mandate department heads to assign readers. The suggestions made by the manager participants are supported by the responses of student and lecturer participants.

As part of resources, it was found to be crucial to provide enabling physical or material resources to students with VI in order to address the issues of access at AAU. In this regard, the respondents from management group made the following suggestions:

*Moreover, the university should give due attention to access the physical environment to students with VI. It is important to solve the problems around the roads, classrooms, dormitories, and toilet and bath rooms. ... The other thing is it is crucial to fulfil the necessary facilitates for students with VI. If the facilities are fulfilled all their major problems can be solved. ...Regarding the problem of examination readers which is raised by both lecturers and students with VI, it can be solved through ICT and we should strive to implement it. It is good to create a computerized system and train students on how to use on the computers to solve the problem (SMI Participant 3).*

*...The availability of supplementary materials and technologies not only in our college but also in others can solve easily the students' as well as the lecturers' problems. Especially, if the computer software which changes the writings into oral is available in the libraries and laboratories*

*by allocating budget from the university, it will be very simple to teach students with VI. I think this will be good for both students and lecturers. If this system is available, not only the volunteer lecturers but also other lecturers (of course the latter may ask for little payment) may prepare their teaching materials in softcopies and make them accessible on computers for students with VI (SMI Participant 2).*

*... It is important to provide assistive materials for students with VI in each department. For instance voice recorder, computer software and other facilities should be fulfilled. Probably, community radio service has become functional this year, and I think that it might be possible to make information accessible to students with VI through it. Especially, to solve the problem of exam readers, it is good to let students with VI take the examination with Braille. It is also possible to train those students with VI to write on Braille and read from it (SMI Participant 1).*

It was discussed in Chapter 3 that both research findings and best practices demonstrate the need for accessing physical or material resources to accommodate students with VI. Similarly, the participants from the senior management group illustrated that the university should modify the physical environment to assist students with VI to move easily around the roads, classrooms, dormitories, toilets and bath rooms. It was also found crucial to provide the necessary facilities and assistive technologies for students with VI so that all their major problems can be solved. According to the responses of all participants from the senior management group, the accessibility of assistive technology or ICT can help to solve the problems of both students with VI and their lecturers created during lectures and examinations. For example, the problem of examination readers which is raised by both lecturers and students with VI can be solved through assistive materials, including voice recorders, computer software and other facilities. It would be especially beneficial to provide students with VI with training on how to write and read Braille and to use it for examinations. It is also necessary to train students with VI to use technology that would give them access to information. In brief, the accessibility of physical or material resources would solve most of the challenging problems that students with VI encounter at AAU. This, in turn, necessitated the availability of adequate financial resources.

In order to address finance-related problems, the following suggestions were made by the respondents from the manager group:

*... The university should fulfil the needs for special budget, materials and offices as much as possible (SMI Participant 1).*

*To solve this problem, the departments and faculties should find solutions because they are responsible to allocate the budget. It is not related to our duty. ... Concerning improving the monthly pocket money*

*which is given in the form of disability allowance for students with VI is the business of the disability centre, not our office's duty. As to me, there is no budget and I have nothing to give. However, I know that 150 birr is given monthly for one student with VI in the form of support. As it is the disability centre that provides this support and other materials, for example Braille papers, it is the responsibility of the centre to answer their questions (SMI Participant 3).*

*If the question of resource is discussed at the university level and the concerned ones allocate enough budgets, it is possible to address all the needs and challenges of students with VI. ...I think it is necessary to let students with VI get a reasonable budget to cover their expenses for exam readers. ...Thus, the allocation of budget should be directly stated for the purpose of supporting and providing services for students with VI. It is important to give special financial support to students with VI. Nevertheless, unless the government considers their problems and assign the budget ear markedly to them, I think that it is not possible to use from regular budget at this moment (SMI Participant 2).*

All the respondents from the management group indicated that special financial support should be in place to solve the problems of students with VI at AAU. Although they differed in specifying the responsible body, all respondents agreed that the university, the departments and the disability centre should allocate enough funds to address the finance-related challenges of students with VI. According to one respondent, the disability centre should improve the students' monthly allowance of 150 birr for each student with VI. On the other hand, another respondent mentioned that it is not possible to meet the financial needs of students with VI from the current budget unless the government assigned it to them. All the respondents made suggestions about the importance of allocating a reasonable budget for students with VI to cover their additional expenses caused by unfavourable conditions at AAU. This finding is significantly supported by the responses of student and lecturer participants as well as the findings from prior studies.

## **5.6 CONCLUSION**

In this chapter, the researcher represented and interpreted the data emanating from the Interviews with the primary purpose of answering the first and third sub-questions of this study. The data also served partially to answer the second research sub-question since it illustrated the human, physical, and financial resources which are needed to better support students with VI at AAU. In the next chapter, the researcher attempts to answer the main as well as the second, third and fourth sub-questions by presenting the data that were collected through the two-round Delphi questionnaires.

## **CHAPTER 6**

### **DATA ANALYSIS AND INTERPRETATION FROM DELPHI QUESTIONNAIRES**

#### **6.1 INTRODUCTION**

In Chapter 5, the qualitative data gathered during the different interviews were analysed and interpreted to address the first, the second and the third secondary research questions of this study. The central focus of this chapter, Chapter 6, is the analysis and interpretation of the data collected from the two-round Delphi questionnaires

#### **6.2 RESEARCH QUESTIONS**

It was mentioned earlier in the methodology chapter that the underlying reason to employ the Delphi method is mainly to answer the primary research question.

##### **Primary research question:**

How best can an action plan be implemented over a period of five years to progressively increase the support for students with VI at AAU?

This question seeks detailed data from Delphi participants in order to develop a five-year action plan that comprises a list of support measures and resources aimed at overcoming the existing challenges and identifying the necessary human, physical and financial resources to increase progressively the support for students with VI when learning and living within the particular context of AAU

#### **6.3 DELPHI EXPERTS**

While the expertise of the Delphi participants is an important factor, because the quality of the outcomes is dependent on the knowledge of the participants (Stone *et al.*, 2005:242), their credentials are presented. Seven out of 11 experts agreed to participate in the study and received the first-round Delphi questionnaire in person. Since six of them filled and returned the questionnaire, a considerable (85%) response rate was achieved in the first-round Delphi study.



**TABLE 6.1: LIST OF DELPHI EXPERTS**

<b>Participants</b>	<b>Professional status</b>
Participant 1 (P1)	<ul style="list-style-type: none"> <li>holds a MA and PhD in Special Needs Education;</li> <li>is a professor and has been lecturing for a decade at Addis Abeba University (AAU);</li> <li>has 35 years' teaching at AAU;</li> <li>has 24 years' experience in teaching impaired students, including students with VI;</li> <li>served at AAU as Head of the Department of Psychology (1 year) and was Director of the Institute of Educational Research;</li> <li>has worked as a Dean of the College of Education at AAU for the past nine years.</li> </ul>
Participant 2 (P2)	<ul style="list-style-type: none"> <li>holds a PhD in Special Needs Education;</li> <li>is an assistant professor and has been lecturing for the last two years at AAU;</li> <li>has been teaching at AAU for 10 years;</li> <li>had served at AAU as an Assistant Dean of Guidance and Counselling for four years;</li> <li>has been working as Head of the Department of Special Needs Education at AAU for a number of years.</li> </ul>
Participant 3 (P3)	<ul style="list-style-type: none"> <li>holds BA, MA and PhD degrees in Special Needs Education;</li> <li>is an assistant professor and has been lecturing in this capacity at AAU for the past two years;</li> <li>has been teaching at AAU for seven years;</li> <li>has seven years' experience in teaching students with visual impairment, hearing impairment and physical impairment;</li> <li>has been working as a coordinator of undergraduate study in the Department of Special Needs Education for two years.</li> </ul>
Participant 4 (P4)	<ul style="list-style-type: none"> <li>holds BA, MA and PhD degrees in Special Needs Education;</li> <li>is an assistant professor and has been lecturing at AAU for the past six years;</li> <li>has taught at AAU for 11 years in total;</li> <li>has 11 years' experience in teaching students with visual impairment, hearing impairment and physical impairment;</li> <li>has been working as Head of the Department of Special Needs Education for five years.</li> </ul>
Participant 5 (P5)	<ul style="list-style-type: none"> <li>holds a BA degree and an MA degree in Psychology as well as a PhD degree in Special Needs Education;</li> <li>is an assistant professor and has been lecturing at AAU since September 9, 2014;</li> <li>has taught at AAU for 12 years in total;</li> <li>has seven years' experience in teaching students with visual impairment, hearing impairment and physical impairment.</li> </ul>
Participant 6 (P6)	<ul style="list-style-type: none"> <li>holds BA and MA degrees in Psychology as well as a PhD in Special Needs Education;</li> <li>is an assistant professor and has been lecturing at AAU for the past eight years;</li> <li>has taught at AAU for 19 years;</li> <li>has eight years' experience in teaching students with visual impairment, hearing impairment and physical impairment;</li> <li>has worked as an Assistant Director of the School of Psychology for one year.</li> </ul>

## **6.4 THE DELPHI INVESTIGATION**

Two-round Delphi questionnaires consisting of semi-structured (closed and open-ended) questions were prepared based on the information obtained from prior studies and best practices as well as the data collected from the interviewees of this study to answer the primary and secondary research questions of this study (see 5.2). The questionnaires were successively conducted with Delphi participants using hard copies in two rounds. The first-round Delphi questionnaire aimed at identifying a prioritized list of support measures and types of resources by means of consensus obtained among the Delphi experts. Therefore, the researcher administered the first-round Delphi questionnaire to seven panel experts in person to obtain their views about the implementation time of the proposed support measures and the resources they needed. Of the participants, six experts returned the questionnaires by prioritizing the support measures according to the importance, feasibility and ease of implementation, and by marking their choices in the matrix of a five-year timeline. The researcher, then, fully represented the choices of Delphi participants against each support measure by writing their codes, such as P1, P2, P3, P4, P5 and P6 in the matrix of a five-year timeline. Although the first-round questionnaire required the participants to list the resources needed for each support measure, most did not fully respond in this part. However, the researcher incorporated the types of resources that some participants partially stated together with their responses to the first-round questionnaire when preparing the second round Delphi questionnaire.

The second round (the final round in the case of this study) Delphi process strived to attain a considerable consensus among Delphi experts on the implementation time of the support measures included in the action plan after obtaining feedback from the researcher about their responses to the first-round questionnaire. Therefore, the second-round Delphi questionnaire that comprised the outcomes of the first-round Delphi questionnaire as feedback was presented to the Delphi experts to enable them to re-evaluate their responses, if they so wished, and to make final decisions on the implementation time of the support measures. As a result, the Delphi participants re-evaluated their prior answers by comparing them with the summarized responses of other participants to the first- round Delphi questionnaire. Among those participants who were engaged in the second-round Delphi study, only three experts returned the questionnaire by making substantial changes to their initial responses in terms of the implementation time of the majority of support measures. Those Delphi participants who made changes on their initial responses

during the second-round Delphi process were indicated with red colour codes or hyphens in the table. The researcher then compiled all the responses given by participants to the first- and second-round Delphi questionnaires and presented these in the table attached under the heading of Appendix or Addendum 11 in this study.

## **6.5 PRESENTATION OF DATA FROM THE SECOND-ROUND DELPHI INVESTIGATION**

The support measures (81 in total) specified in the second round Delphi questionnaire were classified against a five-year timeline after obtaining unanimous (100%), strong (75-99%) and moderate (66-74%) consensus among Delphi participants on the basis of the importance, feasibility and ease of implementation of each support measure year by year. When the level of consensus about each support measure was reduced to less than four (>66%), it was considered, as there was no consensus among Delphi participants so that the researcher omitted the item from the action plan developed for AAU. As a result, the Delphi participants helped to organize the plan of action into a five-year plan by deciding which measures were fundamental particularly for the first year and the rest of the support measures that were built on the first ones.

The next section presents a brief outline of the support measures which obtained a considerable consensus of four and more (66%) Delphi participants to be implemented in Year 1 at AAU together with the resources needed for each support measure.

### **6.5.1 Support measures to be implemented in Year 1**

In this section, the researcher grouped the support measures that should be implemented by AAU in Year 1 based on the consensus reached among five or six (83-100%) Delphi experts during the second-round Delphi process. The lists of support measures were generated into five major categories or themes, namely policies, admission, additional support services, adaptation of curricula, instructional strategies and assessment tools, as well as provision of adequate human, physical and financial resources.

#### **6.5.1.1 Policies**

This section particularly indicates a list of policy-related support measures accepted by Delphi

participants (with 100% consensus) to be implemented in Year 1 together with the necessary resources. They are:

- a) Reviewing the existing university policies and legislation in accordance with international and local legal frameworks accepted by Ethiopian government to ensure the rights and equal opportunities of students with VI in all aspects of inclusive provision;
- b) Setting out a clearly articulated set of policy standards and tools in line with social models of disability and associated theoretical frameworks on which the inclusion of students with VI can be based;
- c) Making available proactive and binding institutional policy frameworks which enable students with VI to receive additional support and make adjustments to the provision of curriculum, instructional and assessment strategies, as well as human, physical and financial resources to meet their special needs;
- d) Regularly informing everything that has been included into the policies and legislations of the university to students with VI and the rest of the university community.

#### **6.5.1.2 Admission**

This section particularly indicates the consensus reached with regard to the following admission-related support measure that was judged by the Delphi experts to be implemented in Year 1 together with the needed resources:

- a) Setting clear, flexible and supportive entry criteria to assign students with VI to different fields of study based on their personal preferences.

#### **6.5.1.3 Additional support**

This section presents a list of support measures about which the Delphi participants reached consensus for accessing additional support services for students with VI in Year 1 as well as the needed resources for each support measure. They are:

- a) Providing students with VI with varying levels of additional guidance and counselling services that enable them to be actively and fully involved in the broader academic and

socio-cultural arenas of AAU by equipping the disability centre and the departments with specialist experts;

- b) Allowing students with VI to arrive a week earlier for orientation and mobility training from specialist experts in the disability centre on how to locate various rooms and buildings of the university as well as resources including human resources(e.g., experts in mobility training), physical or material resources (e.g., a campus map in Braille, cane) and financial resources;
- c) Assigning students with VI in dormitories together with sighted peers to promote diverse social interaction resources such as human (e.g., temporary peer-mentors) and physical resources;
- d) Providing special opportunities for students with VI to create social contact with the university staff who have visual impairments;
- e) Interacting respectfully with students with VI in classrooms during and extra-curricular activities of the university;
- f) Involving students with VI in recreational activities together with sighted peers;
- g) Equipping the disability centre and the departments with specialist experts, including those who have visual impairments, and providing technical support to students with VI and their lecturers in adapting the educational materials;
- h) Accessing specialist support for students with VI by experts in visual impairment and inclusive education or special needs education available in the various departments;
- i) Accessing general academic support for students with VI from their lecturers and academic leaders;
- j) Accessing personal tutor and mentor support or peer-mentoring services, including mobility assistance, readers, note-takers and materials-adaptors

#### 6.5.1.4 Adaptation of curricula, instructional strategies and assessment tools

This section indicates a list of support measures approved by the Delphi participants (with 83-100% consensus) for adapting the curricula, instructional strategies and assessment tools to meet the needs of students with VI in Year 1 as well as the necessary resources for each support measure. They are:

- a) Conducting regular discussions with students with VI to determine curricular modifications for their specific needs;

- b) Modifying the curriculum materials, such as syllabuses, modules, course outlines, lecture-notes, handouts, worksheets and assignments for students with VI in their preferred formats;
- c) Adapting the curriculum content and delivery according to the learning pace and styles of students with VI;
- d) Providing references in alternative formats for students with VI enabling them to write senior essays for graduation;
- e) Increasing the awareness and skills of academic staff to adapt their instructional strategies for students with VI;
- f) Enhancing the accessibility of each course of instruction and activity for students with VI through modifying the classroom organization or laboratory lay-outs in ways that suit students with VI;
- g) Adjusting the instructional processes in line with the learning interests, styles and rates of learning of students with VI;
- h) Keeping front row seats open for students with VI so that they can easily identify their seats and hear the explanations of the lecturers;
- i) Making available copies of syllabi, handouts and assignments two or three weeks prior to the beginning of classes for recording or for Braille transcription;
- j) Providing students with VI with instructional materials in alternative formats, such as recorded, Brailed or embossed, as well as in audio and tactile formats when giving materials to sighted peers;
- k) Allowing students with VI to record lectures;
- l) Verbalising repeatedly what is written on the board or slides and presented in handouts;
- m) Pacing the presentation of course materials or allowing extra time for students with VI in course activities that need them to refer to textbooks or handouts;
- n) Asking for sighted volunteer students to team up with students with VI for group work and in-class assignments;
- o) Making early arrangements (e.g., transportation, guide and site accessibility) for field trips;
- p) Applying collaborative teaching and cooperative learning.

#### **6.5.1.5 Provision of adequate and relevant human, physical and financial resources**

This section provided a list of support measures approved by the Delphi participants (with 100%

consensus for all support measures) for accessing adequate and relevant human, physical and financial resources for the maximum benefit of AAU's students with VI in Year 1 as well as the needed resources for each support measure. They are:

- a) Assigning knowledgeable and adequate experts to the disability centre to support the inclusive learning of students with VI;
- b) Deploying specialist staff who regularly support students with VI and their staff at the department level;
- c) Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life-skills;
- d) Assigning faculty and department leaders who have of the commitment and capacity for responding to learner diversity;
- e) Arranging regular teamwork and collaboration between the lecturers of students with VI and professionals of special needs education to advance the inclusion of students with VI in AAU;
- f) Collaborating with disability-related associations, NGOs, and other relevant institutions to enhance inclusive services for students with VI;
- g) Providing general orientation and introduction to all service providers, including lecturers, management staff and peers on how to deal with the academic and non-academic needs of learners with VI within the inclusive environment of AAU;
- h) Designing continuous professional development programmes for the academic staff with regard to inclusive support systems, curricular modification and adaptation of instructional and assessment strategies as well as on how to use assistive technologies to meet the special needs of learners with VI
- i) Providing special training to students with VI on how to write and read Braille to enhance their communication skills;
- j) Devising better incentive mechanisms, such as academic promotion opportunities or annual appraisals to encourage staff members who serve students with VI after completing the continuous professional development programme or training in inclusive education;
- k) Auditing regularly the physical environment by trained auditors in consultation with students with VI and disability support staff to identify the barriers to accessibility;
- l) Updating the design standards of physical resources in favour of students with VI;

- m) Re-adjusting the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible to students with VI;
- n) Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when re-adjustment is impossible;
- o) Building ramps to ease access for students with VI;
- p) Making available campus signs and maps in tactile format;
- q) Providing consistent orientation and mobility training to enable students with VI to locate the buildings and rooms without assistance;
- r) Setting out standards on how adaptive materials and technologies should be accessible to students with VI;
- s) Providing students with VI with a variety of adapted educational materials, such as Brailled literature, embossed and recorded curricular materials, reading and writing tools;
- t) Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen reader, speech synthesizers, Braille transcribers and e-books or e-resources;
- u) Providing libraries, laboratories and computer centres with adapted equipment and technology to serve students with VI;
- v) Providing computers with appropriate software especially for female students with VI in their dormitories to protect them from any form of sexual harassment;
- w) Offering training to students with VI and their lecturers on how to use the adapted materials and ICT;
- x) Taking into account the safety and security of students with VI when arranging seats and facilities in the classroom, libraries, laboratories and computer rooms;
- y) Assessing the existing funding system for its adherence to the principle of equalization of opportunities for students with VI;
- z) Allocating funds for faculties and departments to address budget-related challenges to students with VI;
- aa) Allocating adequate budget regularly for students with VI to hire personal assistants, such as readers of written materials and examinations;
- bb) Devising additional payment systems or incentive mechanisms for academic staffs and implementing these according to the extra time they use to provide special support to students with VI in terms of accessing their teaching materials and modes of assessment in alternative formats.



As it was indicated above, all Delphi participants of the second round Delphi questionnaire unanimously reached (100%) consensus on 58 out of 59 support measures to let them be implemented in the first year of the proposed timeline. On the other hand, a strong consensus was obtained among five (83%) of Delphi participants on one support measure (i.e. applying collaborative teaching and cooperative learning) to let it be implemented by AAU in year one. In general, a considerable (100 or 83%) consensus was finally reached among the Delphi participants to implement 73% (59 out of 81) support measures in year one in order to improve AAU's inclusive policies and practices as well as provision of adequate and relevant human, physical and financial resources for the maximum benefits of students with VI. This result is in harmony with the earlier findings of the literature study mentioned in Chapter 3. Besides, Delphi participants listed the types of resources needed to implement the aforementioned support measures in Year 1 even though they showed variation from expert to expert for each support measure. The lists of resources together with the variation in responses among Delphi participants are demonstrated in the action plan intended to be implemented over Years 2, 3, 4 and 5 as they did in Year 1.

## **6.5.2 Support measures to be implemented in Year 2**

In this section, the researcher particularly sorted the support measures that should be implemented by AAU in Year 2 based on the consensus reached among four to six (66-100%) Delphi experts during the second-round Delphi processes in terms of the five categories/themes, namely policies, admission, additional support services, adaptation of curricula, instructional strategies and assessment tools, as well as provision of adequate human, physical and financial resources

### **6.5.2.1 Policies**

This section particularly indicated a policy-related support measure accepted by Delphi participants to be implemented in Year 2. It is Auditing and reviewing the impacts of existing policies and legislations at the end of every operational year and making changes resulting from such evaluation in collaboration with students with VI (100% consensus).

### **6.5.2.2 Admission**

This section particularly indicated the following admission-related support measures that were suggested by Delphi experts (with 100% consensus) to be implemented in Year 2:

- a) Providing information to students with VI in alternative formats on matters of program specifications and support services and resources available in the institution, faculties, and departments prior to applying for the particular field of study;
- b) Providing guidance and counselling services to students with VI on admission-related issues in order to make a conscious or informed choice about their fields of study;
- c) Allowing students with VI to be admitted into different departments based on their choice regardless of assuming that they are incapable because of their impairment; and
- d) Giving priority to students with VI when they compete with their sighted counterparts to join the departments on the basis of their academic results

### **6.5.2.3 Additional support services**

This section particularly presented a list of support measures approved by Delphi participants (100% consensus) for accessing additional support services to students with VI in Year 2. They are:

- a) Providing students with VI with varying levels of additional guidance and counselling services that enable them to be actively and fully involved in the broader academic and socio-cultural arenas of AAU by resourcing the disability centre and departments with specialist experts;
- b) Allowing students with VI to arrive a week earlier to gain orientation and mobility training from specialist experts of the disability centre on how to locate various rooms and buildings of the university;
- c) Assigning students with VI in dormitories together with sighted peers to promote diverse social interactions;
- d) Establishing values that appreciate the full participation of students with VI into socio-cultural activities as equal parts of the university community;

- e) Providing special opportunities to students with VI for creating social contact with the university staff who have visual impairment;
- f) Interacting with students with VI respectfully in class and extra-curricular activities of the university;
- g) Allowing students with VI to participate in recreational activities together with sighted peers;
- h) Involving students with VI, including females, in Blind Sports, including Para-Olympic games, when necessary;
- i) Resourcing the disability centre and departments with specialist experts, including those who have visual impairment, and providing technical support to students with VI and their lecturers in adapting the educational materials and facilities;
- j) Accessing specialist support to students with VI from professionals in visual impairment and inclusive education or special needs education available in different departments;
- k) Accessing general academic support for students with VI from their lecturers and academic leaders;
- l) Accessing personal tutor/mentor support or peer-mentoring service, including mobility assistance, readers, note-takers and materials-adapters;
- m) Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university; and
- n) Accessing additional support from other institutions and voluntary agencies (e.g., Ethiopian Association for the Blind

#### **6.5.2.4 Adaptation of curricula, instructional strategies and assessment tools**

This section particularly indicated a list of support measures approved by Delphi participants with 100% consensus for adapting the curricula, instructional strategies and assessment tools to meet the needs of students with VI in Year 2. They are:

- a) Conducting regular discussions with students with VI to determine curricular adaptations for their specific needs;
- b) Adapting the curriculum materials, such as syllabus, module, course outline, lecture-notes, handouts, worksheets and assignments to students with VI in their preferred formats;

- c) Adapting the curriculum content and delivery according to the learning pace and styles of students with VI;
- d) Providing references in alternative formats for students with VI enabling them to write senior essays for graduation;
- e) Increasing the awareness and skills of academic staff and adapting the instructional strategies in favour of students with VI;
- f) Enhancing the accessibility of each course and activity for students with VI through modifying the classroom organization or laboratory layout in ways that suits students with VI;
- g) Adjusting the instructional processes in line with the learning interests, styles and rates of students with VI;
- h) Keeping front row seats open for students with VI to identify their seats easily and to hear the explanations of lecturers;
- i) Making available copies of syllabi, handouts and assignments two or three weeks prior to the beginning of classes for recording or Braille transcription;
- j) Providing students with VI with instructional materials in alternative formats, such as recorded, Brailled, embossed, and other audio and tactile formats at the same time that these are given to their sighted peers;
- k) Allowing students with VI to record lectures;
- l) Verbalizing repeatedly what is written on the board or slides and presented in handouts;
- m) Pacing the presentation of course materials or allowing extra time for students with VI in course activities that require them to refer to textbooks or handouts;
- n) Applying collaborative teaching and cooperative learning;
- o) Asking for sighted volunteer students to team up with students with VI for group work and in-class assignments);
- p) Making arrangements (e.g., transportation, guide and site accessibility early for fieldtrips;
- q) Showing flexibility with deadlines of assignments that need document conversion process, such as CD, Braille and electronic printing;
- r) Allowing students with VI double time for examinations, tests and quizzes. (Delphi participants reached a unanimous consensus);
- s) Minimizing assessment issues like stress or frustration by allowing them to present oral examinations instead of written one or short-answer responses instead of multiple-choice and matching questions; and

- t) Reviewing regularly the assessment arrangements of the university in consultation with students with VI to ensure the attainment of both students' needs and stated course objectives

#### **6.5.2.5 Provision of adequate and relevant human, physical and financial resources**

This section indicated a list of support measures approved by Delphi participants for accessing adequate and relevant human, physical and financial resources for the maximum benefit of AAU's students with VI in Year 2 as well as the newly added resources for each support measure. They are:

- a) Deploying specialist staff who regularly support students with VI and their staff at department level (100% consensus);
- b) Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life skills (100% consensus)
- c) Providing opportunities for students with VI to have personal assistants based on their needs (83% consensus);
- d) Allowing students with VI to hire their own personal assistants or tutors by using the budget allocated by the university (83% consensus);
- e) Arranging regular teamwork and collaboration between the lecturers of students with VI and professionals of special needs education from departmental or institution-wide staff to advance the inclusion of students with VI in AAU (83% consensus);
- f) Providing all academic staff short-term training in the basic principles of inclusive education to remove their knowledge deficiency and negative disposition towards the inclusion of students with VI (66% consensus);
- g) Auditing regularly the physical environment by trained auditors in consultation with students with VI and disability support staff to identify the barriers for accessibility (83% consensus);
- h) Updating the design standards of physical resources in favour of students with VI (66% consensus);
- i) Re-adjusting the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible for students with VI (66% consensus);
- j) Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when re-adjustment is impossible (83% consensus);

- k) Building ramps to ease access for students with VI (83% consensus);
- l) Making available campus signs and maps in tactile format (83% consensus);
- m) Providing consistent orientation and mobility training to locate the buildings and rooms without assistance (83% consensus);
- n) Setting out standards on how adaptive materials and technologies should be accessible to students with VI (66% consensus);
- o) Providing students with VI a variety of adapted educational materials, such as Brailled literature, embossed and recorded curricular materials, reading and writing tools (83% consensus);
- p) Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen reader, speech synthesizers, Braille transcribers and e-books or e-resources (83% consensus);
- q) Organizing libraries, laboratories and computer centres with adapted equipment and technologies to serve students with VI (83% consensus);
- r) Arranging computers with appropriate software especially for female students with VI in their dormitories in order to protect them from any form of sexual harassment (83% consensus);
- s) Offering training to students with VI and their lecturers on how to use adapted materials and ICT (83% consensus);
- t) Taking into account the safety and security of students with VI when arranging seats and facilities in the classrooms, libraries, laboratories and computer rooms (100% consensus);
- u) Examining the existing funding system based on the principle of equalization of opportunities for students with VI (66% consensus);
- v) Allocating budget ear marked for faculties and departments to address the budget-related challenges of students with VI (83% consensus);
- w) Offering additional funds through disability student allowance schemes to buy adaptive materials and technology as well as to pay for their maintenance and the consumables (83% consensus);
- x) Allocating adequate funds regularly for students with VI to hire personal assistance, such as readers of written materials and examinations (83% consensus);

As it was mentioned above, a reasonable consensus (ranging from 66 to 100% of consensus) was obtained from Delphi participants on 64 out of 81 support measures to be implemented in

the second year of the proposed timeline. In particular, the Delphi participants reached at a unanimous (100%) consensus on 42, a strong (83%) consensus on 17 and a moderate (66%) consensus on five support measures to enable them to be implemented by AAU in Year 2. In general, a considerable (66-100%) consensus was finally reached among Delphi participants at the second-round Delphi process to implement 79% (64) out of 81 support measures in Year 2 based on their importance and practicality in the inclusive context of AAU for the maximum benefit of students with VI. The importance of the aforementioned support measures has a substantial support from the earlier findings of the literature study (see Chapter 3).

### **6.5.3 Support measures to be implemented in Year 3**

In this section the researcher sorted the support measures that should be implemented by AAU in Year 3 based on the consensus reached among four to six (66-100%) Delphi experts during the second-round Delphi processes in terms of the five categories/themes, namely policies, admission, additional support services, adaptation of curricula, instructional strategies and assessment tools, as well as provision of adequate human, physical and financial resources. In addition, the newly added resources other than what have been specified for similar support measure/s in Years1 and 2 were presented for each support measure.

#### **6.5.3.1 Policies**

This section particularly indicated a policy-related support measure accepted by Delphi participants to be implemented in Year 3. It is:

- a) Auditing and reviewing the impacts of existing policies and legislations at the end of every operational year and make changes resulting from such evaluation in collaboration with students with VI (66% consensus)

#### **6.5.3.2 Admission**

This section particularly indicated the following admission-related support measures that were suggested by Delphi experts with 100% consensus to be implemented in Year 3

- a) Providing information to students with VI in alternative formats on matters of program specifications and support services and resources available in the institution, faculties, and departments prior to applying for a particular field of study;
- b) Providing guidance and counselling services to students with VI on admission-related issues to enable them to make conscious or informed choices about their fields of study;
- c) Allowing students with VI to be admitted into different departments based on their choice regardless of assuming that they are incapable because of their impairment and
- d) Giving priority to students with VI when they compete with their sighted counterparts to join departments on the basis of their academic results

### **6.5.3.3 Additional support services**

This section particularly presented a list of support measures approved by Delphi participants for accessing additional support services to students with VI in Year 3. They are:

- a) Providing students with VI varying levels of additional guidance and counselling services that enable them to be actively and fully involved in the broader academic and socio-cultural arenas of AAU by resourcing the disability centre and departments with specialist experts (100% consensus);
- b) Allowing students with VI to arrive a week earlier to gain orientation and mobility training from specialist experts in the disability centre on how to locate various rooms and buildings of the university (100% consensus);
- c) Assigning students with VI in dormitories together with sighted peers to promote diverse social interactions (100% consensus);
- d) Providing special opportunities to students with VI for creating social contact with the university staff who have visual impairment (83% consensus);
- e) Interacting respectfully with students with VI in class and extra-curricular activities of the university (83% consensus);
- f) Allowing students with VI to participate in recreational activities together with sighted peers (100% consensus);
- g) Involving students with VI, including females, in Blind Sports, including Para-Olympic Games, when necessary (100% consensus);



- h) Accessing specialist support for students with VI from professionals in visual impairment and inclusive education or special needs education available in different departments (100% consensus);
- i) Accessing general academic support for students with VI from their lecturers and academic leaders (100% consensus);
- j) Accessing personal tutor/mentor support or peer-mentoring service, including mobility assistance, readers, note-takers and materials-adapters (100% consensus);
- k) Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university (100% consensus); and
- a) Accessing additional support from other institutions and voluntary agencies (e.g., Ethiopian Association for the Blind) (83% consensus).

#### **6.5.3.4 Adaptation of curricula, instructional strategies and assessment tools**

This section indicated a list of support measures approved by Delphi participants for adapting the curricula, instructional strategies and assessment tools to meet the needs of students with VI in Year 3 as well as the newly added resources other than what have been specified for similar support measure/s in Years1 and 2. They are:

- a) Conducting regular discussions with students with VI to determine curricular adaptations for their specific needs (83% consensus);
- b) Adapting the curriculum materials, such as syllabus, module, course outline, lecture-notes, handouts, worksheets and assignments for students with VI in their preferred formats (83% consensus);
- c) Adapting the curriculum content and delivery according to the learning pace and styles of students with VI (83% consensus);
- d) Providing references in alternative formats for students with VI allowing them to write the senior essays for graduation (100% consensus);
- e) Increasing the awareness and skills of academic staff and adapting the instructional strategies in favour of students with VI (83% consensus);
- f) Enhancing the accessibility of each course of instruction and activity for students with VI through modifying the classroom organizations or laboratory layouts in way that suit students with VI (83% consensus);

- g) Adjusting the instructional processes in line with the learning interests, styles and rates of students with VI (100% consensus);
- h) Keeping front row seats open for students with VI to identify their seats easily and to hear the explanations of lecturers (100% consensus);
- i) Making available copies of syllabi, handouts and assignments two or three weeks prior to the beginning of classes for recording or Braille transcription (100% consensus);
- j) Providing students with VI with instructional materials in alternative formats, such as recorded, Brailled, embossed, and other audio and tactile formats at the same time that these are given to the sighted peers (100% consensus);
- k) Allowing students with VI to record lectures (100% consensus);
- l) Verbalizing repeatedly what is written on the board or slides and presented in handouts (100% consensus);
- m) Pacing the presentation of course materials or allowing extra time for students with VI in course activities that need reference to textbooks or handouts (100% consensus);
- n) Applying collaborative teaching and cooperative learning (100% consensus);
- o) Asking for sighted volunteer students to team up with students with VI for group work and in-class assignments (100% consensus);
- p) Making arrangements (e.g., transportation, guide and site accessibility) early for fieldtrips (100% consensus);
- q) Accessing examination and other assessment tools for students with VI in alternative formats, such as in tactile/Braille and audio-taped formats or personal computers with voice synthesizers, or note-takers and readers (100% consensus) including human (e.g., personal assistants), materials (e.g., personal computers) and financial resources;
- r) Allowing flexibility of deadlines of assignments that need document conversion processes, such as CD, Braille and electronic printing (100% consensus);
- s) Allowing students with VI double time for examinations, tests and quizzes (100% consensus);
- t) Minimizing assessment issues like stress or frustration by allowing the presentation, oral examination instead of written or short-answer responses instead of multiple-choice and matching questions (100% consensus); and

- u) Reviewing regularly the assessment arrangements of the university in consultation with students with VI to ensure the attainment of both students' needs and stated course objectives (100% consensus).

#### **6.5.3.5 Provision of adequate and relevant human, physical and financial resources**

This section indicated a list of support measures approved by Delphi participants for accessing adequate and relevant human, physical and financial resources for the maximum benefit of AAU's students with VI in Year 3 as well as the newly added resources other than what have been specified for similar support measure/s in Years1 and 2. They are:

- a) Deploying specialist staff who regularly support students with VI and their staff at department level (66% consensus);
- b) Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life skills 100% consensus);
- c) Providing opportunities for students with VI to have personal assistants based on their needs (83% consensus);
- d) Allowing students with VI to hire their own personal assistants or tutors by using the budget allocated from the university (83% consensus);
- e) Arranging regularly the teamwork and collaboration between the lecturers of students with VI and professionals in special needs education from departmental or institution-wide staff to advance the inclusion of students with VI in AAU (83% consensus);
- f) Providing all academic staff with short-term training on the basic principles of inclusive education to remove their knowledge deficiency and negative disposition towards the inclusion of students with VI (66% consensus);
- g) Implementing either pre-service or in-service teacher training to build the capacity of lecturers of students with VI regarding inclusive educational policies and practices in higher education (66% consensus);
- h) Auditing regularly the physical environment by trained auditors in consultation with students with VI and disability support staff to identify the barriers to accessibility (83% consensus);
- i) Updating the design standards of physical resources in favour of students with VI (66% consensus);

- j) Establishing friendly and accessible physical environments, including buildings, playgrounds, landscaping, car parking areas, routes of travel and sanitation rooms and facilities for the accommodation of students with VI (66% consensus);
- k) Re-adjusting the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible to students with VI (66% consensus);
- l) Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when re-adjustment is impossible (83% consensus);
- m) Building ramps to ease access for students with VI (66% consensus);
- n) Making available campus signs and maps in tactile format (66% consensus);
- o) Providing consistent orientation and mobility training to locate the buildings and rooms without assistance (83% consensus);
- p) Providing students with VI a variety of adapted educational materials, such as brailled literature, embossed and recorded curricular materials, reading and writing tools (83% consensus);
- q) Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen reader, speech synthesizers, Braille transcribers and e-books or e-resources (83% consensus);
- r) Organizing libraries, laboratories and computer centres with adapted equipment and technologies to serve students with VI (66% consensus);
- s) Arranging computers with appropriate software especially for female students with VI in their dormitories in order to protect them from any form of sexual harassment (66% consensus);
- t) Offering training to students with VI and their lecturers on how to use the adapted materials and ICT (66% consensus);
- u) Taking into account the safety and security of students with VI when arranging seats and facilities in the classroom, libraries, laboratories and computer rooms (83% consensus);
- v) Examining the existing funding system based on the principle of equalization of opportunities for students with VI (66% consensus);
- w) Allocating budget earmarked for faculties and departments to address budget-related challenges to students with VI (66% consensus on this support measure);
- x) Establishing external funding streams with partners to make good use of external financial resources (66% consensus);

- y) Offering additional funding through disability student allowance scheme to buy adaptive materials and technologies as well as to pay for their maintenance and consumables (66% consensus);
- z) Allocating adequate funds regularly for students with VI to hire personal assistance, such as readers of written materials and examinations (66% consensus); and
- aa) Allowing students with VI to manage their personal budgets allocated through the students' funding program (66% consensus).

As discussed above, a reasonable consensus (ranging from 100 to 66% of consensus) was obtained from Delphi participants on 65 out of 81 support measures to let them be implemented in the third year of the proposed timeline. In particular, the Delphi participants reached a unanimous (100%) consensus on 30, a strong (83%) consensus on 17 and a moderate (66%) consensus on 18 support measures to let them be implemented by AAU in Year 3. In general, a considerable (66-100%) consensus was finally reached among Delphi participants during the second-round Delphi process to implement 80% (65) out of 81 support measures in Year 3 based on their importance and practicality in the inclusive context of AAU for the maximum benefit of students with VI. The importance of the aforementioned support measures has a substantial support from the earlier findings of the literature study (see Chapter 3).

#### **6.5.4 Support measures to be implemented in Year 4**

In this section, the researcher sorted the support measures that should be implemented by AAU in Year 4 based on the consensus reached among four to six (66-100%) Delphi experts during the second-round Delphi processes in terms of the four categories/themes, namely admission, additional support services, adaptation of curricula, instructional strategies and assessment tools, as well as provision of adequate human, physical and financial resources

##### **6.5.4.1 Admission**

This section indicated the following admission-related support measures that were suggested by Delphi experts to be implemented in Year 4

- a) Providing information to students with VI in alternative formats on matters of program specifications and support services and resources available in the institution, faculties,

- and departments prior to applying for the particular field of study (100% consensus);
- b) Providing guidance and counselling services to students with VI on admission-related issues in order to make a conscious or informed choice about their fields of study (100% consensus);
- c) Allowing students with VI to be admitted into different departments based on their choice regardless of assuming that they are incapable because of their impairment (100% consensus); and
- d) Giving priority to students with VI when they compete with their sighted counterparts to join the departments on the basis of their academic results (100% consensus).

#### **6.5.4.2 Additional support services**

This section particularly presented a list of support measures approved by Delphi participants for accessing additional support services for students with VI in Year 4. They are:

- a) Providing students with VI varying levels of additional guidance and counselling services that enable them to be actively and fully involved in the broader academic and socio-cultural arenas of AAU by resourcing the disability centre and departments with specialist experts (100% consensus);
- b) Allowing students with VI to arrive a week earlier to gain orientation and mobility training from specialist experts of the disability centre on how to locate various rooms and buildings of the university (83% consensus);
- c) Assigning students with VI in dormitories together with sighted peers to promote diverse social interactions (100% consensus);
- d) Providing special opportunities for students with VI to create social contact with university staff who have visual impairments (83% consensus);
- e) Interacting respectfully with students with VI in class and extra-curricular activities of the university (83% consensus);
- f) Allowing students with VI to participate in recreational activities together with sighted peers (100% consensus);
- g) Involving students with VI, including females, in Blind Sports, including Para-Olympic Games, when necessary (100% consensus);
- h) Accessing specialist support for students with VI from professionals in visual

impairment and inclusive education or special needs education available in different departments (100% consensus);\

- i) Accessing general academic support to students with VI from their lecturers and academic leaders (100% consensus);
- j) Accessing personal tutor/mentor support or peer-mentoring services, including mobility assistance, readers, note-takers and materials-adapters (100% consensus);
- k) Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university (100% consensus); and
- l) Accessing additional support from other institutions and voluntary agencies (e.g., Ethiopian Association for the Blind) (83% consensus).

#### **6.5.4.3 Adaptation of curricula, instructional strategies and assessment tools**

This section indicated a list of support measures approved by Delphi participants for adapting the curricula, instructional strategies and assessment tools to meet the needs of students with VI in year 4. They are:

- a) Conducting regular discussions with students with VI to determine curricular adaptations for their specific needs (66% consensus);
- b) Adapting the curriculum materials, such as syllabi, modules, course outlines, lecture-notes, handouts, worksheets and assignments to students with VI in their preferred formats (66% consensus);
- c) Adapting the curriculum content and delivery according to the learning pace and styles of students with VI (83% consensus);
- d) Providing references in alternative formats for students with VI allowing them to write a senior essay for graduation (100% consensus);
- e) Enhancing the accessibility of each course instruction and activity to students with VI through modifying the classroom organization or laboratory layout in ways that suit students with VI (66% consensus);
- f) Adjusting the instructional processes in line with the learning interests, styles and rates of students with VI (100% consensus);
- g) Keeping front row seats open for students with VI to easily identify their seats and hear the explanations of lecturers (100% consensus);
- h) Making available copies of syllabi, handouts and assignments two or three weeks prior

- to the beginning of classes for recording or Braille transcription (100% consensus);
- i) Providing students with VI with the instructional materials in alternative formats, such as recorded, brailled, embossed, and other audio and tactile formats at the same time that they are given to their sighted peers (100% consensus);
- j) Allowing students with VI to record lectures (100% consensus);
- k) Verbalizing repeatedly what is written on the board or slides and presented in handouts (100% consensus);
- l) Pacing the presentation of course materials or allowing extra time for students with VI in course activities that need them to refer to textbooks or handouts (100% consensus);
- m) Applying collaborative teaching and cooperative learning (100% consensus);
- n) Asking for sighted volunteer students to team up with students with VI for group work and in-class assignments (100% consensus);
- o) Making arrangements (e.g., transportation, guide and site accessibility) early for fieldtrips (100% consensus);
- p) Accessing examination and other assessment tools to students with VI in alternative formats, such as in tactile/Braille and audio-taped format or using personal computers with voice synthesizers or note-takers and readers (83% consensus);
- q) Allowing flexibility of deadlines for assignments that need document conversion processes, such as CD, Braille and electronic printing (100% consensus);
- r) Allowing students with VI double time for examinations, tests and quizzes (100% consensus);
- s) Minimizing assessment issues like stress or frustration by allowing the presentation of oral examinations instead of written one or short-answer instead of multiple-choice and matching questions (100% consensus); and
- t) Reviewing regularly the assessment arrangements of the university in consultation with students with VI to ensure the attainment of both students' needs and stated course objectives (100% consensus).

#### **6.5.4.4 Provision of adequate and relevant human, physical and financial resources**

This section indicated a list of support measures approved by Delphi participants for accessing adequate and relevant human, physical and financial resources for the maximum benefit of AAU's students with VI in Year 4. They are:



- a) Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life-skills (100% consensus);
- b) Providing opportunities for students with VI to have personal assistants based on their needs (83% consensus);
- c) Allowing students with VI to hire their own personal assistants or tutors by using the funds allocated by the university (83% consensus);
- d) Appointing faculty and department leaders who have the commitment and capacity for responding to learner diversity (83% consensus);
- e) Arranging regular teamwork and collaboration between the lecturers of students with VI and professionals of special needs education from departmental or institution-wide staff to advance the inclusion of students with VI at AAU (100% consensus);
- f) Providing all academic staff with short-term training on the basic principles of inclusive education to improve their knowledge and encourage the development of a positive attitude towards the inclusion of students with VI (66% consensus);
- g) Implementing either pre-service or in-service teacher training to build the capacity of lecturers of students with VI regarding inclusive educational policies and practices in higher education (66% consensus);
- h) Auditing regularly the physical environment by trained auditors in consultation with students with VI and disability support staff to identify the barriers for accessibility (83% consensus);
- i) Updating the design standards of physical resources in favour of students with VI (66% consensus);
- j) Modifying the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible to students with VI (66% consensus);
- k) Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when modification is impossible (83% consensus);
- l) Providing consistent orientation and mobility training to enable students with VI to locate buildings and rooms without assistance (83% consensus);
- m) Providing students with VI with a variety of adapted educational materials, such as Brailed literature, embossed and recorded curricular materials, reading and writing tools (83% consensus);
- n) Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen reader, speech synthesizers, Braille transcribers and e-books or e-resources (83% consensus);

- o) Arranging computers with appropriate software especially for female students with VI in their dormitories in order to protect them from any form of sexual harassment (66% consensus);
- p) Taking into account the safety and security of students with VI when arranging seats and facilities in the classrooms, libraries, laboratories and computer rooms (83% consensus);
- q) Examining the existing funding system based on the principle of equalization of opportunities for students with VI (66% consensus);
- r) Allocating funds for faculties and departments to address budget-related challenges of students with VI (66% consensus);
- s) Offering additional funding through the disability student allowance scheme to buy adaptive materials and technologies as well as to pay for their maintenance and consumables (66% consensus);
- t) Allocating adequate funds regularly for students with VI to hire personal assistance, such as readers of written materials and examination questions (66% consensus);
- u) Allowing students with VI to manage their personal budgets allocated through the students' funding program (66% consensus).

As discussed above, a reasonable consensus (ranging from 66 to 100% of consensus) was obtained from Delphi participants on 57 out of 81 support measures for them to be implemented in the fourth year of the proposed timeline. In particular, the Delphi participants reached a unanimous (100%) consensus on 29, a strong (83%) consensus on 15 and a moderate (66%) consensus on 13 support measures for them to be implemented by AAU in Year 4. In general, a considerable (66-100%) consensus was finally reached among Delphi participants in the second round Delphi process to implement 70% (57) out of 81 support measures in Year 4 based on their importance and practicality in the inclusive context of AAU for the maximum benefit of students with VI. The importance of the aforementioned measures indicates substantial support for the earlier findings of the literature study (see Chapter 3).

#### **6.5.5 Support measures to be implemented in Year 5**

In this section, the researcher grouped the support measures that should be implemented by AAU in Year 5 based on the consensus reached among four to six (66-100%) Delphi experts during the second-round Delphi processes in terms of the four categories or themes, namely admission,

additional support services, adaptation of curricula, instructional strategies and assessment tools, as well as the provision of adequate human, physical and financial resources.

#### **6.5.5.1 Admission**

In this section the following admission-related support measures were suggested by Delphi experts (100% consensus throughout) to be implemented in Year 5: Providing information to students with VI in alternative formats on matters of programme specifications, support services and resources available in the institution, faculties, and departments prior to their applying for the particular field of study:

- a) Providing guidance and counselling services to students with VI on admission-related issues in order to enable them to make conscious or informed choices about their fields of study;
- b) Allowing students with VI to be admitted into different departments based on their choice regardless of assuming that they are incapable because of their impairment;
- c) Giving priority to students with VI when they compete with their sighted counterparts to join the departments on the basis of their academic results.

#### **6.5.5.2 Additional support services**

In this section a list of support measures approved by Delphi participants for accessing additional support services to students with VI in Year 5 were presented. They are

- a) Providing students with VI with varying levels of additional guidance and counselling services that enable them to be actively and fully involved in the broader academic and socio-cultural arenas of AAU by resourcing the disability centre and departments with specialist experts (100% consensus);
- b) Allowing students with VI to arrive a week earlier to gain orientation and mobility training from specialist experts in the disability centre on how to locate various rooms and buildings of the university (83% consensus);
- c) Assigning students with VI to dormitories together with sighted peers to promote diverse social interactions (100% consensus);

- d) Providing special opportunities to students with VI for creating social contact with the university staff who have visual impairments (83% consensus);
- e) Interacting with students with VI in class and extra-curricular activities of the university (83% consensus);
- f) Enabling students with VI to participate in recreational activities together with sighted peers (83% consensus);
- g) Involving students with VI, including females, in Blind Sports, including Para-Olympic Games, when necessary (83% consensus);
- h) Accessing specialist support for students with VI from professionals in visual impairment and inclusive education or special needs education available, in various departments (83% consensus);
- i) Accessing general academic support for students with VI from lecturers and academic leaders (83% consensus);
- j) Accessing personal tutor/mentor support or peer-mentoring services, including mobility assistance, readers, note-takers and materials-adapters (83% consensus);
- k) Accessing technical support from all service providers, including IT technicians, laboratory and library assistants at the university (83% consensus);
- l) Accessing additional support from other institutions and voluntary agencies (e.g., Ethiopian Association for the Blind (100% consensus).

### **6.5.5.3 Adaptation of curricula, instructional strategies and assessment tools**

This section indicated a list of support measures approved by Delphi participants for adapting the curricula, instructional strategies and assessment tools to meet the needs of students with VI in Year 5. They are:

- a) Adapting curriculum materials, such as syllabi, modules, course outlines, lecture-notes, handouts, worksheets and assignments for students with VI in their preferred formats (83% consensus);
- b) Adapting the curriculum content and delivery according to the learning pace and styles of students with VI (83% consensus);
- c) Providing references in alternative formats for students with VI enabling them to write senior essays for graduation (100% consensus);

- d) Enhancing the accessibility of each course instruction and activity for students with VI through modifying the classroom organization or laboratory layouts in ways that suit students with VI (66% consensus);
- e) Adjusting the instructional processes in line with the learning interests, styles and rates of students with VI (83% consensus);
- f) Keeping front row seats open for students with VI so that they can easily identify their seats and hear the explanations of lecturers (100% consensus);
- g) Making available copies of syllabi, handouts and assignments two or three weeks prior to the beginning of classes for recording or Braille transcription (100% consensus);
- h) Providing students with VI with instructional materials in alternative formats, such as recorded, Brailled, embossed, and other audio and tactile formats at the same time that these are given to sighted peers (100% consensus);
- i) Allowing students with VI to record lectures (100% consensus);
- j) Verbalizing repeatedly what is written on the board or slides and presented in handouts (100% consensus);
- k) Pacing the presentation of course materials or allowing extra time for students with VI in course activities that need reference to textbooks or handouts (100% consensus);
- l) Applying collaborative teaching and cooperative learning (100% consensus);
- m) Requesting sighted volunteer students to team up with students with VI for group work and class assignments (100% consensus);
- n) Making arrangements (e.g., transportation, guide and site accessibility) early for fieldtrips (100% consensus);
- o) Providing examination and other assessment tools for students with VI in alternative formats, such as in tactile/Braille and audio-taped format or using personal computers with voice synthesizers or note-takers and readers (83% consensus);
- p) Allowing flexibility of deadlines of assignments that need document conversion processes, such as CD, Braille and electronic printing (100% consensus);
- q) Allowing students with VI double time for examinations, tests and quizzes (100% consensus);
- r) Minimizing assessment issues like stress or frustration by enabling students with VI to do oral examinations instead of written examinations, or short-answer questions instead of multiple-choice and matching questions (100% consensus);

- s) Reviewing regularly the assessment arrangements of the university in consultation with students with VI to ensure the satisfaction of both student needs and stated course objectives (100% consensus).

#### **6.5.5.4 Provision of adequate and relevant human, physical and financial resources**

This section indicated a list of support measures approved by the Delphi participants for accessing adequate and relevant human, physical and financial resources for the maximum benefit of AAU's students with VI in Year 5. They are:

- a) Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life-skills (100% consensus);
- b) Providing opportunities for students with VI to have personal assistants based on their needs (100% consensus);
- c) Allowing students with VI to hire their own personal assistants or tutors by using the funds allocated by the university (100% consensus);
- d) Arranging regular teamwork and collaboration between lecturers of students with VI and professionals in special needs education from departmental or institution-wide staff to advance the inclusion of students with VI at AAU (100% consensus);
- e) Providing all academic staff short-term training in the basic principles of inclusive education to improve their knowledge and remove their negative disposition towards the inclusion of students with VI (83% consensus);
- f) Implementing either pre-service or in-service teacher training to build the capacity of lecturers of students with VI regarding inclusive educational policies and practices in higher education (83% consensus);
- g) Auditing regularly the physical environment using trained auditors in consultation with students with VI and disability support staff to identify the barriers for accessibility (100% consensus);
- h) Updating the design standards of physical resources in favour of students with VI (100% consensus);
- i) Re-adjusting the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible to students with VI (83% consensus);
- j) Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when re-adjustment is impossible (83% consensus);

- k) Providing consistent orientation and mobility training to locate the buildings and rooms without assistance (100% consensus);
- l) Providing students with VI with a variety of adapted educational materials, such as Brailled literature, embossed and recorded curricular materials, reading and writing tools (100% consensus);
- m) Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen readers, speech synthesizers, Braille transcribers and e-books or e-resources (83% consensus);
- n) Arranging computers with appropriate software especially for female students with VI in their dormitories in order to protect them from any form of sexual harassment (83% consensus);
- o) Taking into account the safety and security of students with VI when arranging seats and facilities in the classroom, libraries, laboratories and computer rooms (83% consensus);
- p) Examining the existing funding system based on the principle of equalization of opportunities for students with VI (66% consensus);
- q) Allocating funds for faculties and departments to address budget-related challenges of students with VI (66% consensus);
- r) Offering additional funds through a disability student allowance scheme to enable students with VI to buy adapted materials and technologies as well as to pay for their maintenance and their consumables (83% consensus);
- s) Allocating adequate funds regularly for students with VI to hire personal assistants, such as readers of written materials and examination questions (83% consensus);
- t) Allowing students with VI to manage their personal budgets allocated through students' funding programme (66% consensus).

As indicated above, the Delphi participants reached a unanimous (100%) consensus on 29 support measures, a strong (83%) consensus on 22 support measures and a moderate (66%) consensus on 4 support measures for implementation by AAU in Year 5. In general, a considerable (66-100%) consensus was finally reached among the Delphi participants in the second-round Delphi process to implement 67% (55 out of 81) of support measures in Year 5 based on the importance and practicality in the inclusive context of AAU for the maximum benefit of students with VI. The importance of the aforementioned support measures has a substantial support from the earlier findings of the literature study (see Chapter 3).

In total, the Delphi participants judged and prioritized 81 support measures that were prepared based on the theoretical and legal frameworks and best practice standards discussed in the literature study as well as the data obtained from the participants in this study. As the findings drawn from the two-round Delphi questionnaires indicated, the participants reached a significant consensus (ranging from a 66% to 100% consensus) on the implementation of some support measures within one particular year. On the other hand, the participants reasonably agreed with the implementation of a substantial number of the support measures in more than a year (ranging from two to five years) of the proposed timeline. The participants ultimately prioritized all the support measures to be implemented over five consecutive years based on their importance, feasibility and ease of implementation at AAU. In particular, the participants reached a strong and unanimous (83% and 100%) consensus on 73% or 59 out of 81 support measures for them to be implemented in Year 1 of the proposed timeline. Subsequently, a moderate (66%), strong (83%) and unanimous (100%) consensus was obtained from the Delphi experts on the implementation of 79% (64) of the support measures in Year 2, 80% (65) of the support measures in Year 3, 70% (57) of the support measures in Year 4 and 67% (55) of the support measures in Year 5. According to this finding, the Delphi participants agreed on the implementation of a maximum number of support measures in Year 3 whereas a minimum number agreed on this for Year 5. When seen in terms of consensus rate, the Delphi participants reached a unanimous (100%) agreement on the majority of the support measures, a strong (83%) agreement on some support measures and a moderate (66%) consensus on very few support measures to be implemented over the five-year period in the inclusive context of AAU for the maximum benefit of students with VI.

As far as the needed resources are concerned, Delphi participants failed to reach a high consensus with regard to the types of resources needed to each support measure over a five-year period. Although all the (100%) Delphi participants specified the needed resources for only the first policy-related support measure, they made various suggestions concerning the other support measures within the entire action plan prepared for AAU. For example, Participant 2 stated resources needed for 76 support measures, Participant 3 for 47 support measures, participant 4 for 25 support measures, Participant 6 for 8 support measures, Participant 1 for 5 support measures and Participant 5 for 2 support measures. On the other hand, the Delphi participants could not all support the following support measures:

- Lecturers keeping front row seats open for students with VI to easily identify their seats and to hear the explanations of the lecturers;



- Lectures verbalizing repeatedly what is written on the board or slides and presented in handouts;
- Lecturers pacing the presentation of course materials or allowing extra time for students with VI in course activities that need reference to textbooks or handouts;
- Applying collaborative teaching and cooperative learning;
- Implementing either pre-service or in-service teacher training to build the capacity of lecturers of students with VI regarding inclusive educational policies and practices in higher education.

In general, there was not any considerable consensus among the Delphi participants when specifying the needed resources for every support measure as they forwarded varied responses for the majority of items in the two-round Delphi questionnaires. However, Delphi participants (ranging from one to six) generally proposed the human, material and financial resources all together or separately for the implementation of the majority of support measures throughout the timeline devised in the Delphi questionnaire. According to the data obtained from the Delphi participants, financial and human resources were the most frequently suggested resources compared with physical/material resources. The findings mentioned in this chapter on the importance and practicality of both of the aforementioned resources and support measures at AAU are entirely consistent with the prior findings and best practices discussed in Chapter 3

## **6.5 CONCLUSION**

In this chapter, the researcher presented answers to the main as well as the second, third and fourth sub-questions through the data gathered by means of two-round Delphi questionnaires. The questionnaires were prepared based on the suggestions made by different participants in Chapter 5 as well as the prior findings and best practices identified in the literature study. Primarily, the first-round questionnaire comprising the support measures was administered to the Delphi participants and obtained their views and opinions of about the implementation time of the proposed support measures and the resources they need. Secondly, the researcher presented the second-round Delphi questionnaire to the selected Delphi participants for final reconsideration after incorporating the judged implementation time of all support measures and specifications of resources into it. The researcher then compiled the responses of all Delphi participants to the first and second round questionnaires in a table. From the data in the table, the researcher made a descriptive outline of a prioritized list of support measures and resources in the light of their

importance and practicality to the particular context of AAU over a five-year period. The results of the Delphi investigation were presented and analysed under the headings of Year 1, 2, 3, 4 and 5 as well as the sub-categories/themes generated from the Delphi investigation.

Alternatively, the researcher graphically represented and analysed the entire results of the Delphi questionnaires in Appendix 12 to further provide the reader with comparative insights about the findings of the two-round Delphi process. Appendix 12 comprises 23 line graphs that were separately designed year by year and in the light of the generated sub-categories/themes. Each figure, therefore, illustrates the responses of the Delphi participants both graphically and in words and shows how two sets of responses to two rounds vary from each other.

The next chapter will represent the summary of the major findings, and the conclusions and recommendations of this study.

## **CHAPTER 7**

### **SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS**

#### **7.1 INTRODUCTION**

This study focused on exploring the current challenges and prospects of inclusive education of students with VI at AAU, Ethiopia with the purpose of developing an action plan for the effective inclusion of students with VI into the campus life of the university.

#### **7.2 REVIEW OF FINDINGS**

Even though the detailed empirical results of this study were presented in Chapters 5 and 6, this section particularly summarizes the main findings in the light of the research questions and objectives set out in Chapter 1

##### **7.2.1 Major findings in respect of the first three secondary research questions**

The answers to the first three secondary research questions, namely

- What are the challenges that students with VI face at AAU?
- What resources (human, physical and financial) are necessary to provide effective support for students with VI?
- What solutions are available for AAU to overcome the challenges or barriers that students with VI face?

are presented in the following table, which describes the challenges, resources necessary, as well as the solutions to the problem

**TABLE 7.1: CHALLENGES, SOLUTIONS AND RESOURCES NEEDED**

CHALLENGES	RESOURCES NEEDED
<p>1. Students indicated challenges, such as:</p> <ul style="list-style-type: none"> <li>• Lack of clear and suitable policies and regulations for the inclusion of students with VI;</li> <li>• Absence of practical responses in establishing supportive offices for ensuring equal opportunities of students with VI;</li> <li>• Inability to make special arrangements in terms of an inclusive environment as staff members consider the cause of problems to be the impairment of students with VI;</li> <li>• Allowing students with VI to join only a few departments/programmes in the social science field without considering their choices;</li> <li>• Inaccessibility of general and academic information in alternative formats other than writing;</li> <li>• Lack of well-organized support structures and services owing to the negative attitudes of staff members towards the inclusion of students with VI;</li> <li>• Absence of adequate experts at the disability centre to properly support students with VI ;</li> <li>• Absence of responsible bodies to provide students with VI with orientation and training in how to find classes and offices;</li> <li>• Inaccessibility of adapted curricular materials in different ways other than in printed format;</li> <li>• Lack of adaptations to instructional strategies to meet the needs of students with VI;</li> <li>• Lack of adaptations and interventions for continuous and summative assessment of students with VI;</li> <li>• Inadequate allocation of funds for readers, inappropriate examination venues and absence of time extensions for assessments affecting the performance of students with VI;</li> <li>• Lack of counsellors, knowledgeable and positive lecturers and personal assistants to support students with VI;</li> <li>• Inaccessibility of buildings, their fixtures and pathways for students with VI;</li> <li>• Unavailability of adequate and variety of adapted educational materials and supportive technology, as well as training in their use;</li> <li>• Inadequate funding for students with VI to cover their additional expenses;</li> <li>• Assigning students with VI to separate dormitories, recreational centres and dining rooms owing to their impairment;</li> <li>• Difficulty of students with VI to obtain support from sighted students as a result of their differences or similarity in religion and ethnicity;</li> <li>• Sexual harassment specifically of female students with VI.</li> </ul>	
<p>2. Lecturers indicate challenges, such as:</p> <ul style="list-style-type: none"> <li>• Absence of information about legal frameworks and theoretical principles that inform lecturers about inclusion of students with VI;</li> <li>• Failure to inform academic staff about the existing rules and regulations of university legislation that govern inclusive education;</li> <li>• Lack of knowledge about the appropriate disability model that lecturers should apply for handling students with VI;</li> </ul>	

<ul style="list-style-type: none"> <li>• Inability of students with VI to see the visual delivery of courses limiting their admission to the majority of the fields of study;</li> <li>• Inability of lecturers to adapt their teaching methods to support students with VI in special ways;</li> <li>• Difficulty of students with VI to write senior essays by referring them only to the available written materials;</li> <li>• Conducting only written assessments owing to the absence of incentives and additional resources for lecturers;</li> <li>• Complaints by lecturers about the dishonesty of examination readers;</li> <li>• Invigilation of students with VI in corridors with no time extension;</li> <li>• Lack of training and orientation of staff members about how to address the problems of students with VI;</li> <li>• Difficulties in the use of buildings and roads on the campus experienced by students with VI;</li> <li>• Failure to provide adaptive curricular materials and technology for students with VI and their lecturers.</li> </ul>	
<p>3. Senior management indicated challenges, such as:</p> <ul style="list-style-type: none"> <li>• Absence of special rules and regulations focusing on students with VI;</li> <li>• Lack of communication with staff about university legislation;</li> <li>• Absence of binding regulations and financial support for lecturers to access information in alternative formats other than writing;</li> <li>• Reluctance to assign students with VI to departments of their choice;</li> <li>• Treating students with VI in the same way as sighted students without taking their special needs into account;</li> <li>• The failure of disability centres to effectively support students with VI and their lecturers owing to the shortage of adequate experts and funds;</li> <li>• Absence of mobility orientation and training for students with VI;</li> <li>• Lack of knowledge and skills on how to teach students with VI;</li> <li>• Lack of adjustment to the times, places and modalities of assessments to students with VI;</li> <li>• Failure to set out a system that alleviates the conflict between lecturers and students with VI on the responsibility of providing examination readers;</li> <li>• Absence of peer-tutors and inability of lecturers to properly support students with VI;</li> <li>• Failure of departments and disability centres to supply adaptive materials and training on how to use them;</li> <li>• Absence of specific funding for students with VI at department and faculty level.</li> <li>• Absence of specific funding for students with VI at department and faculty level.</li> </ul>	
<b>SOLUTIONS</b>	<b>RESOURCES NEEDED</b>
<p>1. Students with VI forwarded the following possible solutions:</p> <ul style="list-style-type: none"> <li>• Developing and implementing suitable regulations for students with VI;</li> <li>• Adapting the environment and facilities;</li> <li>• Providing training on how to use the technology;</li> </ul>	<p>Assistive materials and technology</p> <p>Adequate</p>

<ul style="list-style-type: none"> <li>• Assigning specialist experts and peer-tutors;</li> <li>• Providing training to lecturers on how to adapt their teaching approach and materials, as well as assessment mechanisms;</li> <li>• Replacing senior essays with other modes of assessment;</li> <li>• Supplying adequate monthly allowances to students with VI;</li> <li>• Assigning students with VI to ground floor classrooms;</li> <li>• Making roads free from obstacles;</li> <li>• Providing posted information in alternative formats;</li> <li>• Assigning students with VI to departments of their first choice;</li> <li>• Conducting discussions with students with VI every four months.</li> </ul>	<p>financial resources</p> <p>Experts in visual impairment and in guidance and counselling</p> <p>Accessible physical environment</p>
<p>2. Lecturers forwarded the following possible solutions:</p> <ul style="list-style-type: none"> <li>• Developing clear policies that facilitate situations for students with VI and lecturers;</li> <li>• Familiarising the performers about the rules and regulations set out to support and assess students with VI;</li> <li>• Providing orientation to management and academic staff about the rights of students with VI as stated in international and local laws and theoretical frameworks;</li> <li>• Providing training to lecturers on how to teach and access lectures, assignments and examinations for students with VI; <ul style="list-style-type: none"> <li>○ Providing training and orientation to university staffs and students with VI about inclusive education and how to use assistive technology;</li> </ul> </li> <li>• Adapting the curricular materials and facilities;</li> <li>• Substituting other courses for senior essays;</li> <li>• Accessing written information for students with VI in software and computers with JAWS software;</li> <li>• Allocating sufficient funds for examination readers;</li> <li>• Assigning individual assistants to students with VI and their lecturers;</li> <li>• Providing support and counselling by psychologists and professionals in special needs education;</li> <li>• Assigning classrooms on ground floors of buildings for students with VI;</li> <li>• Conducting regular discussions with lecturers and administrative workers in order to change their negative attitudes towards students with VI..</li> </ul>	<p>Incentives to lecturers</p> <p>Experts at disability centres and other professionals</p> <p>Personal assistants</p> <p>Adaptive materials and technology</p> <p>Adaptive curricula</p> <p>Additional funding</p> <p>Accessible Classrooms</p>
<p>3. Senior management forwarded the following possible solutions:</p> <ul style="list-style-type: none"> <li>• Developing and implementing a systematic policy or regulation to provide support and additional services for students with VI;</li> <li>• Disseminating the information on inclusive policy and practices to students with VI and the wider university community;</li> <li>• Providing training and orientation to all lecturers on how to treat students with VI and address their needs;</li> <li>• Assigning professionals in visual impairment to departments where a large number of students with VI are found;</li> <li>• Allocating reasonable funding for students with VI;</li> <li>• Providing easy access to the physical environment for students with VI;</li> <li>• Providing adaptive materials and assistive technology and training in their application.</li> </ul>	<p>Knowledgeable lecturers and professionals</p> <p>Peers or personal readers/assistants</p> <p>Adapted materials and technology</p> <p>Sufficient special funding</p>

### **7.2.2 Major findings in respect of the fourth secondary research question**

The fourth sub-question of this study is:

*What is the best way in which such a plan can be developed for AAU?*

The researcher decided after a literature study that the Delphi method could be an effective way to develop an action plan of support for students with VI. The following advantages of the Delphi are conclusive, according to the researcher, as to the relative success of the employment of the Delphi method. Firstly, the size of the panel can be relatively small (which is time- and cost-effective. Secondly, the added value provided by the chosen experts, is that they knew the circumstances at AAU, therefore they could evaluate the possibilities effectively. Thirdly, the experts were known, therefore the researcher could clarify meanings, or negotiate situations. Forthly, the experts were knowledgeable about the two aspects which were researched, namely disabilities and management. Fifthly, an advantage of making use of practising experts is that they may be at the forefront of developments in their fields. Sixthly, the method is very flexible. Finally, considerable consensus was reached.

The short answer to the fourth secondary question would be that, with the information at the researcher's disposal and based on his experience, the choice of the Delphi method to determine such a five-year plan, was a good one

### **7.2.3 Major findings in respect of the primary research question**

The following TABLE (7.2) provides the answer on the primary research question, namely

*How best can an action plan be implemented over a period of five years to progressively increase the support for students with VI at AAU?*

**TABLE 7.2: FIVE YEAR PLAN FOR THE SUPPORT OF STUDENTS WITH VI**

<b>YEAR 1</b>	
Policy	<ul style="list-style-type: none"> <li>• Revise all policies, in line with the social model of disability.</li> <li>• Make institutional policies available to the wider university community.</li> </ul>
Admission	<ul style="list-style-type: none"> <li>• Sort clear, supportive and flexible entry criteria.</li> </ul>
Support	<ul style="list-style-type: none"> <li>• Provide guidance and counselling services by specialists.</li> <li>• Supply mobility orientation and training a week before the university opens.</li> <li>• Accommodate students with VI in dormitories with sighted peers for social interaction.</li> <li>• Create opportunities for social contact with staff members with VI.</li> <li>• Provide social interaction in class and on extra-curricular levels.</li> <li>• Organize recreational activities.</li> <li>• Supply specialist support in the disability centre and departments by professionals.</li> <li>• Encourage lecturers to provide general academic support.</li> <li>• Appoint personal mentors (tutors or peers).</li> </ul>
Curricula	<ul style="list-style-type: none"> <li>• Conduct regular discussions with students with VI to determine their needs.</li> <li>• Modify curriculum materials, such as syllabi, modules, course outlines, lecture-notes, handouts, worksheets and assignments for students with VI in their preferred formats.</li> <li>• Adapt curriculum content and enhancing accessibility.</li> </ul>
Instructional strategies	<ul style="list-style-type: none"> <li>• Refer to and use references in alternative formats.</li> <li>• Update the skills of lecturers.</li> <li>• Adjust instructional processes to suit students with VI.</li> <li>• Keep front row seats open for students with VI.</li> <li>• Provide instructional material in alternative formats.</li> <li>• Allow recording of lessons.</li> <li>• Verbalize written notes.</li> <li>• Pace presentation according to time constraints of students with VI.</li> <li>• Let sighted volunteers assist students with VI during group work activities.</li> <li>• Make timely arrangements for field trips.</li> <li>• Apply collaborative teaching and cooperative learning strategies.</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>• Make copies of handouts and assignments three weeks prior to submission to be available in time for Braille transcription.</li> </ul>
Resources	<ul style="list-style-type: none"> <li>• Assign adequate and skilled experts to the disability centre and departments.</li> <li>• Make peer-tutors or mentors available to students with VI.</li> <li>• Ensure that teamwork and collaboration between lecturers and other professionals is effective.</li> <li>• Encourage collaboration between disability-related associations and external institutions.</li> <li>• Offer general orientation and training to service providers.</li> <li>• Adjust physical environments and facilities to suit students with VI.</li> <li>• Make adapted materials and supportive technology accessible to students with VI.</li> <li>• Arrange seats and facilities in classrooms to ensure the safety and security of students with VI.</li> </ul>



	<ul style="list-style-type: none"> <li>• Allocate adequate funds for students with VI and the departments to which they are allocated.</li> <li>• Devise Incentive mechanisms for lecturers of students with VI.</li> </ul>
<b>YEAR 2</b>	
Policy	<ul style="list-style-type: none"> <li>• Audit the impacts of existing institutional policies and revise them in consultation with students with VI.</li> </ul>
Admission	<ul style="list-style-type: none"> <li>• Supply Information and counselling about fields of study to students with VI for making informed choices.</li> <li>• Give priority to students with VI to join the departments they choose.</li> </ul>
Support	<ul style="list-style-type: none"> <li>• Provide guidance and counselling services by specialists.</li> <li>• Provide mobility orientation and training a week before the university opens.</li> <li>• Accommodate students with VI in dormitories with sighted peers for social interaction.</li> <li>• Create social contact with staff members with VI.</li> <li>• Provide social interactions in class and on extra-curricular levels.</li> <li>• Organize recreational activities and Para-Olympic Games.</li> <li>• Supply specialist and technical support in disability centres and departments by professionals.</li> <li>• Encourage lecturers to provide general academic support to students with VI.</li> <li>• Ensure that access to personal mentors (tutors or peers) is in place.</li> <li>• Make additional support from other institutions available.</li> </ul>
Curricula	<ul style="list-style-type: none"> <li>• Conduct regular discussions with students with VI to determine their needs.</li> <li>• Modify curriculum materials, such as syllabi, modules, course outlines, lecture-notes, handouts, worksheets and assignments to students with VI in their preferred formats.</li> <li>• Adapt curriculum contents and enhance their accessibility.</li> </ul>
Instructional strategies	<ul style="list-style-type: none"> <li>• Refer to and use references in alternative formats.</li> <li>• Update skills of lecturers.</li> <li>• Adjust instructional processes to suit students with VI.</li> <li>• Keep front row seats open for students with VI.</li> <li>• Provide instructional material in alternative formats.</li> <li>• Allow recording of lessons.</li> <li>• Verbalize written notes.</li> <li>• Pace presentation according to time constraints of students with VI.</li> <li>• Enable sighted volunteers to assist in group work activities.</li> <li>• Make timely arrangements for field trips.</li> <li>• Apply collaborative teaching and cooperative learning strategies.</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>• Make copies of handouts and assignments available three weeks prior to submission in time for Braille transcription.</li> <li>• Allow extra time for students with VI to do assignments and examinations.</li> <li>• Replace written examinations with oral assessments.</li> <li>• Review the arrangements for assessments in collaboration with students with VI.</li> </ul>
Resources	<ul style="list-style-type: none"> <li>• Assign specialist experts in departments.</li> <li>• Make peer-tutors or mentors available to students with VI.</li> <li>• Allow students with VI to hire personal assistants by using financial resources of the university.</li> <li>• Ensure that teamwork and collaboration between lecturers and other professionals are effective.</li> </ul>

	<ul style="list-style-type: none"> <li>• Offer short-term training to academic staff members.</li> <li>• Adjust physical environments and facilities to suit students with VI.</li> <li>• Make adaptive materials and supportive technology accessible.</li> <li>• Arrange seats and facilities in classrooms to ensure the safety and security of students with VI.</li> <li>• Allocate adequate funding for students with VI and the departments in which they study.</li> <li>• Provide students with VI with additional funds to buy and maintain assistive technology.</li> </ul>
<b>YEAR 3</b>	
Policy	<ul style="list-style-type: none"> <li>• Audit the impacts of existing institutional policies and revise them in consultation with students with VI.</li> </ul>
Admission	<ul style="list-style-type: none"> <li>• Supply Information and counselling about fields of study to students with VI to enable them to make informed choices.</li> <li>• Give priority to students with VI to join the departments they chose.</li> </ul>
Support	<ul style="list-style-type: none"> <li>• Supply mobility orientation and training a week before the university opens.</li> <li>• Accommodate students with VI in dormitories with sighted peers for social interaction.</li> <li>• Create opportunities for social contact with staff members with VI.</li> <li>• Enable social interactions in class and on extra-curricular levels to be made.</li> <li>• Organize recreational activities and Para-Olympic Games.</li> <li>• Supply specialist and technical support in departments, libraries and disability or resource centres.</li> <li>• Encourage lecturers to provide general academic support.</li> <li>• Ensure that access to personal mentors (tutors or peers) is in place.</li> <li>• Make additional support from other institutions available.</li> </ul>
Curricula	<ul style="list-style-type: none"> <li>• Conduct regular discussions with students with VI to determine their needs.</li> <li>• Modify curriculum materials, such as syllabi, modules, course outlines, lecture-notes, handouts, worksheets and assignments to students with VI in their preferred formats.</li> <li>• Adapt curriculum content to enhance accessibility.</li> </ul>
Instructional strategies	<ul style="list-style-type: none"> <li>• Refer to and use references in alternative formats.</li> <li>• Update skills of lecturers.</li> <li>• Adjust instructional processes to suit students with VI.</li> <li>• Keep front row seats open for students with VI.</li> <li>• Provide instructional material in alternative formats.</li> <li>• Allow recording of lessons.</li> <li>• Verbalize written notes.</li> <li>• Pace presentation according to time constraints of students with VI.</li> <li>• Appoint sighted volunteers to assist in group work activities.</li> <li>• Make timely arrangements for field trips.</li> <li>• Apply collaborative teaching and cooperative learning strategies.</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>• Make copies of handouts and assignments three weeks prior to submission available in time for Braille transcription.</li> <li>• Use assessments in alternative formats, including oral examinations.</li> <li>• Allow extra time for the completion of assignments and examinations.</li> <li>• Review the arrangements on assessments in collaboration with students with VI.</li> </ul>
Resources	<ul style="list-style-type: none"> <li>• Assign specialist experts to departments.</li> <li>• Appoint peer-tutors or mentors for students with VI.</li> </ul>

	<ul style="list-style-type: none"> <li>• Allow students with VI to hire personal assistants by using the university's financial resources.</li> <li>• Ensure that teamwork and collaboration between lecturers and other professionals is effective.</li> <li>• Offer short-term training and pre-service or in-service teacher education to academic staff members.</li> <li>• Adjust physical environments and facilities to suit students with VI.</li> <li>• Make adapted materials and supportive technologies accessible.</li> <li>• Ensure that the arrangement of seats and facilities in classrooms provide for the safety and security of students with VI.</li> <li>• Allocate adequate funding for students with VI and the ways in which they study.</li> <li>• Provide students with VI with additional funds to buy and maintain assistive technology.</li> <li>• Establish external funding streams with partners.</li> </ul>
<b>YEAR 4</b>	
Admission	<ul style="list-style-type: none"> <li>• Provide information and counselling about fields of study to students with VI to enable them to make informed choices.</li> <li>• Give priority to students with VI to join the departments they choose.</li> </ul>
Support	<ul style="list-style-type: none"> <li>• Provide mobility orientation and training a week before the university opens.</li> <li>• Assign students with VI to dormitories with sighted peers for social interaction.</li> <li>• Create opportunities for social contact with staff members with VI.</li> <li>• Make social interaction possible in class and on extra-curricular levels.</li> <li>• Organize recreational activities and Para-Olympic Games.</li> <li>• Provide specialist and technical support in departments, libraries and disability or resource centres.</li> <li>• Encourage lecturers to provide general academic support.</li> <li>• Ensure that access to personal mentors (tutors or peers) is in place.</li> <li>• Make additional support available from other institutions.</li> </ul>
Curricula	<ul style="list-style-type: none"> <li>• Conduct regular discussions with students with VI to determine their needs.</li> <li>• Modify curriculum materials, such as syllabi, modules, course outlines, lecture notes, handouts, worksheets and assignments for students with VI in their preferred formats.</li> <li>• Adapt curriculum contents to enhance their accessibility.</li> </ul>
Instructional strategies	<ul style="list-style-type: none"> <li>• Refer to and use references in alternative formats.</li> <li>• Adjust instructional processes to suit students with VI.</li> <li>• Keep front row seats open for students with VI.</li> <li>• Provide instructional material in alternative formats.</li> <li>• Allow recording of lessons.</li> <li>• Verbalize written notes.</li> <li>• Pace presentation according to time constraints of students with VI.</li> <li>• Appoint sighted volunteers to assist in group activities.</li> <li>• Make timely arrangements for field trips.</li> <li>• Apply collaborative teaching and cooperative learning strategies.</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>• Make copies of handouts and assignments three weeks prior to submission in time for Braille transcription.</li> <li>• Access assessments in alternative formats, including oral examination.</li> <li>• Allow extra time for the completion of assignments and examinations.</li> </ul>

	<ul style="list-style-type: none"> <li>Review the arrangements for assessments in collaboration with students with VI.</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Make peer tutors or mentors available to students with VI.</li> <li>Allow students with VI to hire personal assistants using the university's financial resources.</li> <li>Ensure that teamwork and collaboration between lecturers and other professionals is effective.</li> <li>Offer short-term training and pre-service or in-service teacher education to academic staff members.</li> <li>Adjust physical environments and facilities to suit students with VI.</li> <li>Make adaptive materials and supportive technologies accessible.</li> <li>Allocate adequate funds to students with VI and their departments.</li> <li>Provide students with VI with additional funds to buy and maintain assistive technology.</li> </ul>
<b>YEAR 5</b>	
Admission	<ul style="list-style-type: none"> <li>Supply Information and counselling about fields of study to students with VI to enable them to make informed choices.</li> <li>Give priority to students with VI to join the departments they choose.</li> </ul>
Support	<ul style="list-style-type: none"> <li>Provide mobility orientation and training a week before the university opens.</li> <li>Accommodate students with VI in dormitories with sighted peers to promote social interaction.</li> <li>Create opportunities for social contact with staff members with VI.</li> <li>Make social interaction in class and on extra-curricular levels.</li> <li>Organize recreational activities and Para-Olympic Games.</li> <li>Supply specialist and technical support in departments, libraries and disability or resource centres.</li> <li>Encourage lecturers to provide general academic support.</li> <li>Ensure that access to personal mentors (tutors or peers) is provided.</li> <li>Make additional support available from other institutions.</li> </ul>
Curricula	<ul style="list-style-type: none"> <li>Modify curriculum materials, such as syllabi, modules, course outlines, lecture notes, handouts, worksheets and assignments for students with VI in their preferred formats.</li> <li>Adapt curriculum content to enhance accessibility.</li> </ul>
Instructional strategies	<ul style="list-style-type: none"> <li>Refer to and use references in alternative formats.</li> <li>Adjust instructional processes to suit students with VI.</li> <li>Keep front row seats open for students with VI.</li> <li>Provide instructional material in alternative formats.</li> <li>Allow recording of lessons.</li> <li>Verbalize written notes.</li> <li>Pace presentation according to time constraints of students with VI.</li> <li>Appoint sighted volunteers to assist in group activities.</li> <li>Make timely arrangements for field trips.</li> <li>Apply collaborative teaching and cooperative learning strategies.</li> </ul>
Assessment	<ul style="list-style-type: none"> <li>Make copies of handouts and assignments available three weeks prior to submission in time for Braille transcription.</li> <li>Provide assessments in alternative formats, including oral examinations.</li> <li>Allow extra time for the completion of assignments and examinations.</li> <li>Review the arrangements on assessments in collaboration with students with VI.</li> </ul>
Resources	<ul style="list-style-type: none"> <li>Arrange for peer tutors or mentors to be available for students with VI.</li> </ul>

	<ul style="list-style-type: none"> <li>• Enable students with VI to hire personal assistants by using the university's financial resources.</li> <li>• Ensure that teamwork and collaboration between lecturers and other professionals is effective.</li> <li>• Offer short-term training and pre-service or in-service teacher education to academic staff members.</li> <li>• Adjust physical environments and facilities to suit students with VI.</li> <li>• Make adapted materials and supportive technologies accessible.</li> <li>• Allocate adequate funds to students with VI and their departments.</li> <li>• Provide students with VI with additional funds to buy and maintain assistive technology.</li> </ul>
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### **7.3 RECOMMENDATIONS**

As long as the existing challenges to students with VI are multi-dimensional in nature, their solutions and interventions need comprehensive and integrated efforts from all stakeholders at AAU. It is believed that the remedial actions will fully address the challenges if they are incorporated into the action/strategic plan of the university and implemented by all concerned bodies at AAU rather than by individuals not permanently involved at the university.

Therefore, the researcher suggests the following recommendations to be implemented by different staff members at AAU in order to improve the existing inclusive policies and practices

#### **7.3.1 Recommendations to university management**

As the action plan emanating from this study is in line with international and national policies on inclusive education, it should ideally be implemented by University Management in their overall strategic plan to ensure the rights and equal opportunities of students with VI. In particular, the researcher recommends that AAU's top-level and senior leaders should firstly reform the existing institutional policies or legislations to be disability-specific and supportive of students with VI based on the action plan developed in line with basic international and national legal frameworks as well as the principles of the social model of disability and associated models and theories. Consequently, the leaders should regularly orient and enforce the line managers, lecturers and other service providers to act immediately in accordance with the action plan developed. Finally, the leaders must follow up and audit the implementation of the action plan and take immediate measures when they find it necessary to do so.

### **7.3.2 Recommendations to university lecturers and other service providers**

University lecturers and other service providers should undergo the necessary training concerning the paradigm shift, including attitudes and measures incorporated in the action plan. They should carry out their duties and responsibilities accordingly, in order to improve their inclusive practices and progressively increase the support for students with VI over the next five years. While the inclusion of students with VI in higher education is a relatively new field, much information is still needed about the learning styles of students with VI, because they are not necessarily auditory learners only. Mediated learning about how the lecturer can effectively teach learners with VI, as well as the art of adapting of learning materials deserve to be scrutinized. Furthermore, the action plan may contribute to other public and private universities who have similar circumstances as those at AAU. These universities can adopt it and improve their inclusive policies and practices or increase the support of students with VI in their own contexts.

This study can be a valuable source should AAU wish to implement the plan and keep abreast of international and national policy requirements. While the Delphi method is flexible it is underutilized in the context of the researcher. Local professionals could investigate possibilities for using the Delphi method in their own circumstances in their further research about the inclusive educational practices on all levels of schooling

### **7.4 FINAL REMARKS AND RECOMMENDATIONS FOR FURTHER RESEARCH**

Since inclusive education was introduced in Ethiopia as a mandatory approach only in 2006, it is still in its infancy stage, especially in higher education institutions. As a result, students with VI are currently learning and living in these institutions with little or no support from decision-makers and practitioners, because there are no well-organized support systems in place. This, in turn, causes a variety of challenging situations to students with VI for them to be successful in their higher education studies. The typical strategies that have been applied in Ethiopian higher education institutions to address the issues of inclusion were merely undertaking conventional researches about the exploration of causes and types of challenges and their possible solutions. However, this study is valuable and unique, since it presents a well-structured action plan that can enable the university to react immediately towards the challenges facing students with VI. As most Delphi experts commented, the application of the Delphi method in this study is the first of

its kind in the area of inclusive higher education that they are aware of, so that many local researchers will possibly adopt the methodology in their further research.

It was apparent that the existing understanding and reaction of the university staff members towards the inclusion of students with VI was informed by the philosophy of the medical model rather than the social model of disability. As the staffs lack awareness on how to apply the principles of the social model of disability and its associated theories, they felt the cause of the students' problems is their visual impairment or incapability instead of making the necessary changes to accommodate such students.

It is therefore essential to focus on the importance of training staff members from a social model of disability perspective. If this is not done, too many students will not realise their God- given potential.

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## APPENDICES

### APPENDIX 1: A LETTER OF PERMISSION OBTAINED FROM THE VICE-PRESIDENT OF UA

**አዲስ አበባ ዩኒቨርሲቲ**  
**ADDIS ABABA UNIVERSITY**



*የአስተዳደርና ተማሪዎች አገልግሎት*  
*ም/ፕሬዚዳንት ጽ/ቤት*

*Office of the Vice President for  
Administration & Student Services*

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ቀን                      April 23, 2013  
Date  
ቁጥር                      VPASS3 00.2005/2013  
Ref. No.

Ato Teferi Adnew Zelelew  
Addis Ababa

የ 1

INFORMED CONSENT LETTER FOR REQUESTING PARTICIPATION IN A STUDY


- I agree to take part in the research entitled '*the inclusion of visually impaired students in Addis Ababa University: Challenges and Prospects*'.
- I understand that the study involves the activities, such as group and individual interviews, and filling a series of questionnaires for certain rounds. The activity which is likely to take 50-60 minutes focuses on the challenges and their possible solutions of the inclusive policies and practices in AAU when serving visually impaired students.
- I have read and understand the information sheet for this study.
- The nature and purposes of the study are explained to me.
- I understand that the research data gathered from participants could be published by ensuring anonymity.
- I understand that the researcher will maintain confidentiality and use any information forwarded by participants only for the purposes of the research.
- I understand that all the research data will be securely kept for five years, and will then be discarded.
- I understand that participation is voluntary in this study and participants may withdraw at any time without any adverse effect.
- I understand that I am asked to assure participation in the study, and I voluntarily consent to take part in the research project described in this form.

**Tegeye Muluye**  
**Vice President for Business and Administration**

Name of the official: Vice President for Business and Administration  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**Statement by the researcher**  
I have explained the research project and the implications of participation in it to the official so that the consent is informed. The official has received the information sheet with all my details in it so that he will have the opportunity to contact me any time when necessary. If you have any questions concerning the study, and about the rights as a participant in the study or if you feel the participants have been placed at risk, please contact me, Teferi Adnew Zelelew, through cell No. 0930098132 or e-mail [teferiadnew@yahoo.com](mailto:teferiadnew@yahoo.com) or UNISA's office at Akaki Campus.

Researcher's name: Teferi Adnew Zelelew  
Researcher's signature: \_\_\_\_\_ Date: 23/04/2013



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☎ 23-97-83; 251-1-23-98-00 Ex. 199    ☒ 1176 E-mail: AAU\_VPASS@aau.edu.et    ☎ 00251-1-239729

## APPENDIX 2: GROUP AND INDIVIDUAL INTERVIEWS GUIDE TO STUDENTS WITH VI

### INFORMED CONSENT LETTER AND QUESTIONS FOR GROUP AND INDIVIDUAL INTERVIEWS WITH STUDENTS WITH VI IN UNIVERSITY A

Debre Berhan  
Kebele 07  
House Number 0048  
Tebasie  
Postal Code 276 or 445

Dear Students,

#### **RE: Consent to take part in a group and an individual interview**

First of all, I will read this letter out loud to help you decide whether or not you want to participate in this study. I assure you that there is no risk involved in your participation in the study. Please, pay attention to all the statements I read. If you have any questions concerning the study, you can raise it at any time. For further information, please contact me, the principal researcher: Zelelew Teferi Adnew using my cell phone 0930098132 or email [teferadnew@yahoo.com](mailto:teferadnew@yahoo.com)

I am a doctoral student, conducting a research study entitled ***'The inclusion of students with VI in University A: Challenges and Prospects'*** under the supervision of Dr Gous-Kemp at the college of Education and Department of Inclusive Education at the University of South Africa (UNISA). The main purpose of the study is to explore the existing challenges and prospects, in order to develop an action/strategic plan that could be applied in University A (UA) for the maximal benefit of students with VI. The study also comprises the following specific objectives:

1. To identify the challenges or barriers that students with VI experience at UA.
2. To explore possible resources that can be used to provide effective support to students with VI at UA.
3. To determine solutions to overcome barriers that students with VI face at UA.
4. To develop an appropriate action plan at UA that can be implemented over a period of time to support students with VI.

I would like to know whether you would be willing to participate in the group and/or individual interviews in which you will be expected to answer questions about the challenges you, as well as other students with VI, experience as far as inclusive education at UA is concerned. The focus group interviewing process will take about 100-120 minutes where as the individual interview needs 20-35 minutes of your time. With your consent, I will record the session, since it enables me to capture all the information forwarded by informants. Although participating in this study might not benefit you directly, you can make a considerable contribution to identify existing challenges that you as well as other students with VI experience at UA. Measures to overcome these challenges will be proposed too. I will, upon request, also provide you with a copy of an action plan that will entail the final results of the study.

You only have to participate if you choose to do so. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The results of the study will appear in the final thesis, but none of the participants' names will be disclosed. The information obtained from you through the interviewing process will only be used for the purposes of this study and it will be confidential. The only people who will be allowed to access the

audio-records and the transcriptions are I and my supervisor, who is allowed to check whether or not I am doing the study correctly. The audio-recorded and transcribed data will be kept safe in my office for five years from the completion of the study, and then be discarded with great care.

Sincerely,

Zeleelew Teferi Adnew

### **CONSENT FORM**

I agree that:

1. I understand the information of the consent form for this research project.
2. The nature and purpose of the study have been explained to me.
3. I understand that this part of the study involves both group and individual interviews that may take about 100-120 and 20-35 minutes respectively.
4. I understand that there are no specific risks involved in participating in this study.
5. I understand that the researcher will maintain my identity confidential and that any information I forward to the researcher will only be used for the purposes of the research.
6. I agree that the research data gathered from me may be appeared in the final thesis anonymously.
7. I understand that all the research data will be kept for five years after the completion of the study, and will then be discarded with great care.
8. I agree to participate in this study and understand that I may withdraw at any time without any effect.
9. I voluntarily agree to participate in this study.

No	Name of Participant	Sex	Age	ID No.	Faculty/College	Department	Batches	Signature	Date
1									
2									
3									
4									
5									
6									
7									
8									
No	Name of Participant	Sex	Age	ID No.	Faculty/College	Department	Batches	Signature	Date
1									

2									
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## GROUP INTERVIEW GUIDE FOR STUDENTS WITH VI

This group interview will be held with eight students with VI to identify the prevailing challenges they have experienced in UA using the following open-ended questions:

1. *Do you feel that UA has an enabling policy or legislation which guarantees the rights and equal opportunities of students with VI from admission to graduation?*
2. *In your view, what are the reasons for the violation of the rights and equal opportunities of students with VI when learning and living in UA?*
3. *In your view, what are the challenges or barriers that affect your choice of field of study in UA?*
4. *What are the main challenges or barriers that students with VI have been experiencing when living and learning in UA?*
5. *To what extent do you feel that the following challenges or barriers affect students with VI to take the full advantages of the existing inclusive learning and living opportunities on offer at UA?*
  - 5.1. *Lack of information or knowledge about the appropriate conceptual model of disability which guides the inclusive policies and practices of UA;*
  - 5.2. *Challenges to access information to students with VI regarding the existing provision and arrangements in alternative formats;*
  - 5.3. *Difficulty to access appropriate and adequate inclusive support services to students with VI;*
  - 5.4. *Lack of accommodations or modifications regarding curricula, learning and teaching strategies, assignments and assessment procedures;*
  - 5.5. *Inaccessible physical environment, materials and equipment;*
  - 5.6. *Unavailability of adaptive/assistive technologies; and*
  - 5.7. *Social influences associated to gender, ethnic and other cultural differences.*
6. *Please specify any possible solutions to overcome those challenges.*
7. *If you have any other suggestion for this study, please specify it.*

Thank you for participating in this interview.

## INDIVIDUAL INTERVIEW GUIDE FOR STUDENTS WITH VI

This individual interview which comprises open-ended questions will be conducted with two students with VI in person to determine their opinions and experiences on challenges and solutions associated to inclusive policies and practices of UA. The questions are presented as follows:

1. *To what extent does UA put in effect enabling policy frameworks or legislative procedures to ensure the rights and entitlements of students with VI in all aspects of campus life and learning?*
2. *Would you please indicate the detailed challenges that students with VI are being faced when learning and living in UA based on the following themes?*



- 2.1. *In terms of the conceptual models (medical and/or social model of disability) used to perceive students with VI and their inclusion;*
- 2.2. *In accessing overall information in alternative formats before, during and after admission;*
- 2.3. *Availability of enabling and clear policy or legislation which directs the provision or accommodations and support services for students with VI;*
- 2.4. *The selection and admission criteria used to place students with VI into different programs of study;*
- 2.5. *Accessibility of appropriate and adequate resources, such as human, physical, financial and time resources to students with VI;*
- 2.6. *Existence of specialized support systems (e.g., access to specialist services) to students with VI and their staff;*
- 2.7. *Accessibility of accommodations or modifications regarding:*
  - *Curricula and educational materials,*
  - *Instructional strategies,*
  - *Assignments and assessment mechanisms,*
  - *Physical environments and materials, and*
  - *Assistive equipment and information technologies.*
- 2.8. *Social circumstances, such as:*
  - *Gender,*
  - *Age, and*
  - *Ethnic and other socio-cultural differences.*
3. *Please specify any possible solutions to overcome those challenges.*
4. *If you have any other suggestion for this study, please specify it.*

Thanks for participating in this interview and keep in touch.

### APPENDIX 3: INDIVIDUAL INTERVIEWS GUIDE TO LECTURERS

LETTER OF INFORMED CONSENT AND QUESTIONS FOR INDIVIDUAL INTERVIEW WITH LECTURERS OF STUDENTS WITH VI IN UA

Debre Berhan  
Kebele 07  
House Number 0048  
Postal Code 276 or 445

Dear Lecturers,

#### **RE: Consent to take part in an individual interview**

This letter is to ask your consent to take part in an individual interview. I assure you there is no risk involved in your participation. If you have any questions concerning the study, you can raise it at any time. For further information, please contact me, the principal researcher: Zelelew Teferi Adnew using my cell phone 0930098132 or email [teferadnew@yahoo.com](mailto:teferadnew@yahoo.com)

I am a doctoral student, conducting a research study entitled '*The inclusion of students with VI in University A: Challenges and Prospects*' under the supervision of Dr Gous-Kemp at the college of Education and Department of Inclusive Education at the University of South Africa (UNISA). The main purpose of the study is to explore the existing challenges and prospects, in order to develop an action/strategic plan that could be applied in UA for the maximal benefit of students with VI. The study also comprises the following specific objectives:

1. To identify the challenges or barriers that students with VI experience at UA.
2. To explore possible resources that can be used to provide effective support to students with VI at UA.
3. To determine solutions to overcome barriers that students with VI face at UA.
4. To develop an appropriate action plan at UA that can be implemented over a period of time to support students with VI.

I would like to know whether you would be willing to participate in the individual interviews in which you will be expected to answer questions about the challenges you, as well as students with VI you work with, experience as far as inclusive education at UA is concerned. The interviewing process will take about 20-35 minutes of your time. With your consent, I will record the session, since it enables me to capture all the information forwarded by participants. Although participating in this study might not benefit you directly, you can make a considerable contribution as far as identifying serious challenges that you as well as the students with VI you work with, experience at UA. Measures to overcome these challenges will be proposed too. I will, upon request, also provide you with a copy of an action plan that will entail the final results of the study.

You only have to participate if you choose to do so. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The results of the study will appear in the final thesis, but none of the participants' names will be disclosed. The information obtained from you through the interviewing process will only be used for the purposes of this study and it will be confidential. The only people who will be allowed to access the

audio-records and the transcriptions are I and my supervisor, who is allowed to check whether or not I am doing the study correctly. The audio-recorded and transcribed data will be kept safe in my office for five years from the completion of the study, and then be discarded with great care.

Sincerely,

Zezelew Teferi Adnew

### **CONSENT FORM**

I agree that:

1. I understand the information of the consent form for this research project.
2. The nature and purpose of the study have been explained to me.
3. I understand that this part of the study involves individual interview that may take about 20-35 minutes.
4. I understand that there are no specific risks involved in participating in this study.
5. I understand that the researcher will maintain my identity confidential and that any information I forward to the researcher will only be used for the purposes of the research.
6. I agree that the research data gathered from me may be appeared in the final thesis anonymously.
7. I understand that all the research data will be kept for five years, and will then be discarded with great care.
8. I agree to participate in this study and understand that I may withdraw at any time without any effect.
9. I voluntarily agree to participate in this study.

No	Name of Participant	Sex	Age	Qualification	Years of service in UA	Your current position	Faculty/ Department	Years of service in the position	Signature	Date

### **INDIVIDUAL INTERVIEW GUIDE FOR LECTURERS OF STUDENTS WITH VI**

1. *Do you feel that you have been achieving the full inclusion of students with VI in all aspects of your academic career when seen from the theoretical frameworks of the social model of disability and critical disability theory perspective? (Explain if necessary)*
2. *If not, what are the areas in which challenges or barriers were evident?*
3. *Is there a clearly articulated set of policy standards on which the inclusion of students with VI can be based?*
4. *What are the challenges that you face in ensuring a full participation of students with VI in all aspects of higher education?*

5. *In your opinion, how do students with VI access the curricula materials, including syllabi, textbooks, handouts, worksheets, and written assignments and examinations in your course/courses?*
6. *In what areas you or other lecturers need special support to improve your inclusive services for maximal benefits of students with VI in your inclusive classrooms?*
7. *In your opinion, what are the particular challenges that students with VI have been facing when learning in UA?*
8. *On what particular challenges/barriers do you feel the university should find immediate solutions to fully or effectively implement inclusive education to students with VI? Why?*
9. *Please specify any possible solutions to overcome the main challenges which students with VI might experienced in UA.*
10. *If you have any other suggestion for this study, please specify it.*

Thank you for participating in this interview.

## APPENDIX 4: INDIVIDUAL INTERVIEW GUIDE TO SENIOR MANAGERS

LETTER OF INFORMED CONSENT AND QUESTIONS FOR INDIVIDUAL INTERVIEWS WITH HEAD OF DEPARTMENT,  
FACULTY DEAN AND DEAN OF STUDENTS IN UA

Debre Berhan  
Kebele 07  
House Number 0048  
Postal Code 276 or 445

Dear Head of Department and Deans of Faculty and Students

### RE: Consent to take part in an individual interview

This letter is to ask your consent to take part in an individual interview. I assure you there is no risk involved in your participation. If you have any questions concerning the study, you can raise it at any time. For further information, please contact me, the principal researcher: Zelelew Teferi Adnew using my cell phone 0930098132 or email [teferadnew@yahoo.com](mailto:teferadnew@yahoo.com)

I am a doctoral student, conducting a research study entitled ***'The inclusion of students with VI in University A: Challenges and Prospects'*** under the supervision of Dr Gous-Kemp at the college of Education and Department of Inclusive Education at the University of South Africa (UNISA). The main purpose of the study is to explore the existing challenges and prospects, in order to develop an action/strategic plan that could be applied in UA for the maximal benefit of students with VI. The study also comprises the following specific objectives:

1. To identify the challenges or barriers that students with VI experience at UA.
2. To explore possible resources that can be used to provide effective support to students with VI at UA.
3. To determine solutions to overcome barriers that students with VI face at UA.
4. To develop an appropriate action plan at UA that can be implemented over a period of time to support students with VI.

I would like to know whether you would be willing to participate in the individual interviews in which you will be expected to answer questions about the challenges you, as well as students with VI you work with, experience as far as inclusive education at UA is concerned. The interviewing process will take about 20-35 minutes of your time. With your consent, I will record the session, since it enables me to capture all the information forwarded by participants. Although participating in this study might not benefit you directly, you can make a considerable contribution as far as identifying serious challenges that you as well as the students with VI you work with, experience at UA. Measures to overcome these challenges will be proposed too. I will, upon request, also provide you with a copy of an action plan that will entail the final results of the study.

You only have to participate if you choose to do so. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The results of the study will appear in the final thesis, but none of the participants' names will be disclosed. The information obtained from you through the interviewing process will only be used for the purposes of this study and it will be confidential. The only people who will be allowed to access the audio-records and the transcriptions are I and my supervisor, who is allowed to check whether or not I am doing

the study correctly. The audio-recorded and transcribed data will be kept safe in my office for five years from the completion of the study, and then be discarded with great care.

Sincerely,

Zeleelew Teferi Adnew

### **CONSENT FORM**

I agree that:

1. I understand the information of the consent form for this research project.
2. The nature and purpose of the study have been explained to me.
3. I understand that this part of the study involves different individual interviews that may take about 20-35 minutes.
4. I understand that there are no specific risks involved in participating in this study.
5. I understand that the researcher will maintain my identity confidential and that any information I forward to the researcher will only be used for the purposes of the research.
6. I agree that the research data gathered from me may be appeared in the final thesis anonymously.
7. I understand that all the research data will be kept for five years, and will then be discarded with great care.
8. I agree to participate in this study and understand that I may withdraw at any time without any effect.
9. I voluntarily agree to participate in this study.

No	Name of Participant	Sex	Age	Qualification	Years of service in UA	Your current position	Faculty/Department	Years of service in the position	Signature	Date
1										
2										
3										

### **INDIVIDUAL INTERVIEW GUIDE FOR HEAD OF DEPARTMENT, FACULTY DEAN AND DEAN OF STUDENTS**

1. *To what extent have the international legal frameworks, (e.g., UN Standard Rules on the Equalization of Opportunities for persons with disabilities, the Salamanca Frameworks), as well as the local laws, such as the new education policy, special needs education implementation*

*strategies and higher education proclamation been included in the current institutional policy or senate legislation at UA?*

- 2. Do you feel that there is a clear policy or senate legislation at UA which ensures the rights of students with VI admitted to study here? If not, why?*
- 3. Are there any obstacles which are created as a result of the existing policy or senate legislation at UA on the inclusion of students with VI? If so, what are the obstacles?*
- 4. To what extent do the existing administrative structures create challenges to full participation of students with VI in all aspects higher education?*
- 5. What particular challenges do you face in promoting a full inclusion of students with VI in all aspects of higher education?*
- 6. In your opinion, what are the main challenges that students with VI and their lecturers faced when implementing inclusive education in UA?*
- 7. The following needs were expressed by students with VI here at UA:*

.....  
.....

*So, please explain how you think those needs of students with VI could be met?*

- 8. Please specify any possible solutions to overcome the main challenges which students with VI might experienced in UA.*
- 9. If you have any other suggestion for this study, please specify it.*

Thank you for participating in this interview.

## APPENDIX 5: A TRANSCRIPT OF THE GROUP INTERVIEW OF STUDENTS WITH VI

Responses to group interview with eight students with VI (4 female and 4 male students) in University A (UA) are presented as follows:

**Table 1 Question 1:**

*In your opinion, do you think that UA has an enabling policy or legislation that gives due concern for the rights and equal opportunities for students with VI from their admission to graduation?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
When I start from my admission, or rather from choosing a department, I was first assigned in Arabic language department. However, as I told them Arabic was not my choice, I was assigned in Amharic language department. Later on, I was again assigned in the department of geography, but I didn't agree with that department and after many trials I was assigned to study in social work department. No orientation was given on how we chose departments. No one gave us any information taking our problems into account. When we asked in which department we were	We were assigned in the department of social work with our choice because the department was new, but they accepted us for the first time after so many trials and debates. That is why they never do any special thing to us. Except considering our choice, the university has done nothing different from the sighted students. No support was given to us. No change was done to enable us get information. It is our friends who are non-visual impaired students that tell us information from a notice board. Even we are not informed about the exam schedule in a special way, and we even can miss the exams if our	As I am a 5 <sup>th</sup> year law department student, I know that admission of law department students is assigned by Ministry of Education. The assignment of students in law department in universities is decided by the Ministry of Education. For this reason, I was assigned in the department of law in UA and I was admitted as to my choice. However, I asked the university to allow me to transfer to another department, but I was not allowed to join another department due to the rules of the university. We choose departments when we are grade 12 students where we have no information. After we had joined the university and got some					



<p>assigned, we were informed to look at from a notice board. The registrar office workers were also unwilling to give answers for our questions. As there are a lot of students with VI in UA, the workers are fed up with us and become reluctant to support us. In general, there are no suitable rules and regulations to students with VI in UA. What I would like to suggest to other students with VI is to join and learn in other better universities.</p>	<p>friends do not tell us. We don't get any information through brail or any other listening mechanism.</p>	<p>information from our friends, we asked to be assigned in other departments but we were not allowed. We were told that we were assigned by the Ministry of Education and we had no alternative except joining the department where we were assigned. In my view, the regulation of the university is rigid as far as assigning students in different departments is concerned. Regarding the supply of teaching learning materials in the department of law, we are simply advised to use the materials in the library, nothing else. Even we are not given the opportunity to use e-books on desktops. If we ask why the university does not make e-books available on desktops for students with VI, it is not because of shortage of money but it is their unwillingness to put the fund for this purpose. We are learning what teachers say/teach in the class by recording on a tape. Even when we ask the university to provide us recording materials, they are unwilling to do so. We are recording using our own personal tape recorders.</p> <p>In general, we are not even allowed to get</p>					
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		<p><i>short term training on using computers which enable us to get/browse information form internet. Although there is legislation which gives attention for the rights and equal opportunities of visual impaired students, it is impractical. No affirmative action is taken for us. What the university is doing for students with VI is no different from the sighted ones. Therefore, what is happening in UA is completely against to the policy that was designed.</i></p>					
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**Table 2 Question 2:**

*In your view, what are the reasons for violating the rights and equal opportunities of students with VI while learning and living in UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
<p><i>I disagree with what participant 4 said: Students with VI are not determined to ask for their rights. On the contrary, we are determined. Even they call us stubborn. Students with VI ask for their rights to be respected. However, as those who should give response to our questions consider us stubborn and talkative, we reserve ourselves from asking deliberately.</i></p> <p><i>We don't ask questions related to our rights because there isn't any responsible body to hear our complaints in the university. No responsible persons /body are assigned in the university to follow up the problems of students with VI.</i></p>	<p><i>I have never tried to ask about my right since the respondents complain that students with VI ask questions without understanding the issue. What makes us not to ask is that lower level managers' response to our quest is discouraging which, as a result, makes us not to ask the top managers.</i></p>	<p><i>As to me, we can look at the question from two angles: our negligence to ask for our rights can be a problem for the violation of our rights. The reason for this is that the university did not inform /orient us our rights clearly. The management of UA is unwilling to listen and tell us the truth when we ask them. They are problem creators. Even the middle level managers below the president have not positive attitude to us. They don't want us to speak to the president. On the other side, we lack the courage to ask for our rights. We used to ask for our rights boldly when were in high school, but we don't any longer in the university as we are afraid of getting lower grades.</i></p>	<p><i>One of the factors that violate the right and equal opportunities of students with VI is our own problem. That is to say, we do not ask for our rights and we do not struggle for our right. The other thing is that the top management bodies of the university 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.</i></p>	<p><i>We students with VI ask for our rights. Nevertheless, as the respondents are not happy and reluctant, we ignore it. Their unwillingness to our quest is the source of the problem.</i></p>	<p><i>I share what participant 4 said a few minutes ago. My view is that the problem with us weighs much. First of all, when everyone goes there one by one, we are usually told to ask through a committee. As a result, we ignore our quest. It is not convincing for me to say that if we ask, some teachers may give us low mark. I said this because there was a time when we made a teacher changes the low mark he gave by applying to the concerned head of the reluctant teacher.</i></p>	<p><i>I agree with what participant 3 said. The management is treating us like the sighted students and does not respect our rights. When we go to ask for our rights, we afraid that teachers may give us low mark. When we ask the management to fulfil what we want, they reply us by saying they are treating us well which is not sound to us. For example, when we take CD to give us handouts through soft copies, the teachers refuse to do so. As we are forced to take the hard copies, we are obliged to beg a sighted person to read the handouts to us. When we try to record some teachers' voice while they are teaching, they don't allow us to do so. Their reason is that they are afraid of being questioned for different reasons using the recorded material. The other problem is that administrators' lack of knowledge</i></p>	

						<i>about students with VI. They treat and consider us in the same way as to the sighted students.</i>	
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**Table 3 Question 3:**

*In your view, what are the challenges or barriers that affect your choice of field of study in UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
<p><i>The basic point to be assigned with our choice is the results of the higher education entrance exam. However, as they have lack of information about this, they disfavour me as well as the other students with VI. For instance, my choice was social work and our result was expected to be calculated out of 600 points while for those sighted students 700. The reason for this difference is that we were exempted from taking the examination in Mathematics. The problem in relation to this is that our result is lower than the sighted students as we don't take mathematics in preparatory school. The problem is they don't know this, so that they said that my result is low compared to my sighted counterpart and cannot be assigned in social work. What people in the university consider is</i></p>		<p><i>One of the reasons that make us not to be assigned in the field that we prefer in the university is that we were not allowed to learn science subjects in high school. This as a result makes us join social science fields in the university. Even if we want to learn in science fields, there should be technological support to us to do so. UA is not willing to provide us the technologies. Therefore, it is not the problem of students with VI, but the university. Leave alone this, we were not allowed to join some of social science fields. The most irritating one is that we asked them to allow us learn music at Yared Music School as we have the ability to do so and there were others who got the chance. However, they didn't allow us saying that it is not convenient for students with VI. Their negative attitudes toward us (students with VI can't join the field) made us not to be assigned in that field.</i></p>					

<p><i>simply the total result without considering the subject that we didn't take. Above all, some teachers generalize that all students with VI are the same because of very few teachers' wrong attitude to students with VI. Some teachers simply give a 'C' grade without correcting the question paper as they know our paper.</i></p>		<p><i>The problem on the side of the management is that they fear that if students with VI are assigned in music department, they will be asked to provide a lot of things. Even when we asked to join social work department, we were not allowed because of lack of material in alternative formats. However, after our endless attempt, very few (one or two) students with VI were assigned in social work department and became successful. Now a day, a lot of students with VI are assigned in the department. As far as our result is concerned, we had a better result with those subjects that we learned in high school. We get less mark while we are in the university. The main reason for this is their negative attitude towards us and they think that students with VI can't learn. This is a bad thinking which comes after the implementation of inclusive education.</i></p>					
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**Table 4 Question 4:**

*Did the university assign you in the department by your first choice?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
<i>He said he was assigned in the department by his 18<sup>th</sup> choice.</i>	<i>She said that she was assigned in social work department by her first choice and explained as follows. When we chose departments, 17 students with VI chose social work as our first choice. However, out of the 17, the department accepted only 4 of us by taking our results into account.</i>	<i>He said that as he was assigned in the department of law by the Ministry of Education, the university also assigned him in that department.</i>	<i>He said he got social work by his first choice. He added that in his day, they were allowed to be assigned in social work since they wanted the department. He said that it was a different situation at that time.</i>	<i>She said she was assigned in the department by her 1<sup>st</sup> choice;</i>	<i>He said that he couldn't say he was assigned by his first choice because the students were made to fill in a form and he placed social work as his first choice. When the list was posted on a notice board, he said that his name was not there. Then, he went to the registrar to ask where he was assigned, but nobody gave him a response. Later on, he went to report to the students' dean office and asked him what his choice was. Finally, he told them that social work was his first choice, and he was assigned in social work after some time.</i>	<i>He said that he was assigned in the department by his first choice.</i>	<i>She said that she was assigned in the department by her first choice.</i>

**Table 5 Question 5:**

*What are the main challenges or barriers that students with VI have been experiencing when living and learning in UA.*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
<p>As it mentioned, the failure to give us the money that we pay for readers at the beginning is a problem by itself. For example, there is a story that I know. One invigilator who read exams for one visually impaired female student asked her to pay him the money immediately after the exam. However, as she couldn't pay him, he accused her to the registrar office and she was given a warning. That was not her fault. If the university does not give her the money ahead, where can she get it to pay? Even as the payment for the readers is very small, it is difficult to get readers. Even if we want to add from our own, the disability allowance that we get each month is very little, 120 birr per month which is supplied for our extra expenses, not for exam readers. Although 15 birr per</p>	<p>The problem that we face during exams is not only the unsuitability of the place where we take exam. We take exams by finding readers by ourselves. Although the university refund the money, we first pay the money for the readers. We pay 15 birr per hour for readers, but as it is taxed it is difficult to get exam readers. The risk is what if we don't have money that we pay for readers.</p> <p>In the university, female students' dormitory is placed separately from males. We visually impaired female students are given dormitories in the building where other sighted students are assigned. For example, eight visually impaired female students are assigned in our dormitory. There are two toilet rooms near to our dormitory which are used by both the students with VI and sighted female</p>	<p>One of the challenges that face students with VI while they are learning in the university is getting parked cars /vehicles on their way. Some students with VI walk inside the university without using their cane thinking that they know the surrounding well. At this time, there is a possibility of bumping into cars. The other barrier is that there are some ditches which are dug for different purposes. This creates a problem on students with VI as we don't get any information ahead. The other challenge that we face is that there are no showers prepared for students with VI. As far as dormitory is concerned, four male students with VI are assigned in a dormitory which is good. I said the dormitory placement is good because all of the four students with VI can help one another by listening recorded materials without disturbing other sighted</p>	<p>As it is mentioned, parking cars on the road is a problem. Furthermore, as we are not given information and any support when we go to classrooms and exam rooms, it is difficult for us to get the rooms. We also face problems when we go to dining hall. Although students with VI have our own dining rooms, the hosts there do not treat us well.</p> <p>When we ask people to record what we want for our learning on a cassette, they let us pay 20 birr. Although there are one or two places outside the university that give this kind of service, we can't use the opportunity as we can't afford the cost.</p>	<p>We share toilet rooms with those sighted students. It is preferable for us to get toilet rooms which are suitable to us.</p>	<p>As participant 3 said earlier, there are cars which are parked on our ways which is problematic to us. The other challenge is that we don't get a suitable place when we are invigilated (taking exams) while the sighted students who are our classmates are invigilated in classrooms. Since we take exams on corridors with our own readers, we are disturbed by the noise of people who are walking around the corridors.</p>		<p>What I prefer is to be assigned with the sighted students. There can be good as well as bad students among them. However, I am happy if we have our own bath room and toilet room.</p>



<p>hour is paid for the reader, he /she will get 12 birr as it is taxed. It is very surprising to get this kind of service in this compound.</p>	<p>students. We use the shower as well as toilet rooms in the building. It will be better if we have at least our own one toilet room. As we use the water for drinking from the toilet room, it is risky to our health. So, we should be helped to get drinking water out of the toilet room. We also wash our clothes in a far place which is used by all female students. Hence, it is difficult to wash our clothes there and dry them, and our clothes are sometimes stolen. The only possibility that we have is to bring the clothes that we wash to our dormitory. The best way is to provide us our own washing places near to our dormitory. When we dry our clothes out of dormitory, they are taken by thieves. What we decide is to wash our clothes in the common shower rooms. However, as the sighted students use the shower to bath their body, we feel uncomfortable and anxiety.</p>	<p>students. We can also use all the sockets available in the dormitory for our purposes. The other problem that we face is that we don't get any information about the classrooms where we are going to learn or when the classrooms are changed except letting us know through written notice. We just know when the sighted students tell us. If they don't tell us, we sometimes miss classes as we don't have any other alternative.</p> <p>I also choose for students with VI to be assigned alone in each dormitory. My reason is that we usually use tape recorders although we can use ear phones. If we live together with sighted students, there can be a problem of using sockets.</p>					
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**Table 6 Question 6.1:**

*To what extent do you feel that lack of information or knowledge about the appropriate conceptual model of disability affects students with VI to take the full advantage of the existing inclusive learning and living opportunities on offer at UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
Even in high school, there are some, people who have negative attitude towards special needs students. For instance, I faced this experience. There was a teacher who terrified me to drop my education, but I tried my best to have changed him and reach at this level.	Inclusive education system is good for me. I was successful as I have been learning through it since grade one. Inclusive education is not working in this university because although we know that we are not less than with our sighted friends, most people in the community do not believe in this. Even when I get a good result, there are some people who tend to ask how I got that good result because of my impairment / blindness. Even so, I think that learning together through inclusive education by itself does not have any influence.	The staff members of the university have shortage of knowledge regarding the theoretical implementation of medical model of disability and social model in the university. There was an opportunity to provide education and training on alleviating the shortage of understanding, but this was impractical. For instance, there is special needs department, and disability's day is celebrated. So, awareness creation education could have been conducted for the department on which model they should follow when serving students with VI, but this was not done. In the absence of this issue, if we simply bring the experience of others and implement it, it can't be effective (fruitful). What I disagree with inclusive education is the fact that putting the policy		When we were in high schools, as teachers had positive attitude toward us, (whenever we had difficulties), they used to help us. In this university, it is very difficult to say so because lecturers are not willing to support us and they don't have good attitude to us.			There are some teachers even in the university who do not give attention to our special needs. For instance, one day a teacher gave us an assignment and I asked him which resources I should refer, but he simply said that you can drop the course.

		<p>without any preparation will not bring any change. Of course, we support the provision of inclusive education and implement it at the tertiary level as there are no other alternatives. Never the less, as the university cannot supply technologies, like laptop, which are very important for students with VI other than chalk and blackboard, I said that we cannot be successful. As it is difficult to verify the rights and equal opportunities of students with VI through the implementation of inclusive education, it is compulsory to see the current situation of the university. For example, it is possible to implement at the college and high school level as the students with VI are considered capable of doing anything. However, what I want to say is it is difficult to implement at University A where the university community has negative attitudes towards students with VI and think that we are incapable of doing anything. I know that I don't mean inclusive education is useless to</p>					
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		us. What made me say so is that I had learned at a residential special school and when I compare the staff's attitude in that school with those at University A it is completely different.					
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**Table 7 Question 6.2:**

*To what extent do you feel that the challenges to access information in alternative formats regarding the existing provision and arrangements affect students with VI to take the full advantage of the existing inclusive learning and living opportunities on offer at UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
<i>The situation in the university compels us to be dependent on the sighted students. For example, as all buildings are almost the same, it is difficult to differentiate. There are a lot of obstacles on our ways in the university. These things are not only problematic but also cause harm on we students with VI. Those poles or ditches on our ways often create dangers on us because there is nothing that can help us identify them before we come near to them.</i>	<i>For example, I heard that there is a notice board on which pointers were written / posted and by using the pointers students can identify where the offices are found. For example, where library, proctors, and registrar offices are located, and where orientation is given is announced through writing and we can use this opportunity if we are told so. There was a day on which I miss an orientation because the venue for the orientation was not verbally told to us. If we do not have communication with sighted students, we</i>	<i>We are in difficulty to identify curves as the paths don't have edges. Previously, the disability centre in the university posted signs written on brail on the buildings. However, as this was written on paper, it was torn and gave no more service. If this sign was scripted on wood or metal, it would give a long lasting service. The other thing is that there were some students with VI who missed exam because they didn't get any information about the exam schedule. It was really possible to send message through e-mail about the exam day and time, but this was not</i>				<i>The things that we use and the information that is transmitted to students with VI are not done through touchable or listening means in this university to let us know them. A call for participation for a meeting is sent to us through a notice. For this reason, we only participate if our sighted students tell us so. We cannot sense the different (pointers) markers attached with the roads and buildings, and we are not made to know about them through our available information gathering</i>	

	<p>can miss a lot of points. I think that a visual impaired student who does not have a friend who is sighted student may face difficulties. All these happen because orientation was not given and we were not given another opportunity to get information. In general, when I look at the situation, the top management as well as the performers are not worried to change it.</p> <p>She also noted that if she hadn't a sighted friend she wouldn't be successful. When asked whether or not this outlook tends to show her dependency on sighted friend, she said yes. This is true. Tell us what you see, take us to this place, etc are what we beg from our sighted friends. Leave alone this, no one tells us anything about examination program except for the program that is posted. Thus, the only alternative that we have is asking our teachers to tell us when and where the examination is held. If they don't tell us, we are obliged to ask our friends to tell us about</p>	<p>tried. What made me surprised is that we know our final grade when others tell us by reading from a notice board. We were not given any chance to know our own results secretly.</p>				<p>mechanisms. There is no conducive situation to let us know the pointers except using our talents to identify. For example, we arrive at our dormitory by counting, not through touching different symbols. We also never get the access to identify our dormitories and classrooms through tactile signs, except using our experience and means. For example, I prepare and use my own symbols to come from dining hall to my dormitory building. I also know how many stairs I should go up. Thus, we don't have any other posted material that enables us to get information. In the library, too, we read the books that are ready for sighted students although there are very few materials written on brail. We use the books by asking some people to read for us.</p>	
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	<i>the exam. Till now, it has never been tried to let us know the examination program either through brail or any other listening mechanism.</i>						
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**Table 8 Question 6.3:**

*To what extent do you feel that the difficulty to access appropriate and adequate inclusive support services affects students with VI to take the full advantage of the existing inclusive learning and living opportunities on offer at UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
<i>It is difficult to say there is an expert in the centre because she is not serving in the centre well. There is no use of establishing the centre if we students with VI go to the centre, but fail to use the available materials there. It is better to assign someone who is visually impaired with a positive attitude towards us. The same is true for others with disability.</i>		<i>What I would like to add is that as law department has a long experience in teaching students with VI, there are some e-books and writings in Braille which are available in law library. Other than this, we share the rest problems too. We don't support inclusive education because it does not provide us any supportive services. When we come to this university, no mobility training and orientation are given to us. I know that disability centre is established in the university, and the head of the centre is trained on special needs education. In the centre, those who have physical disability and hearing</i>	<i>It is better to say that the support services that should be provided to the students with VI through inclusive education in the university are not available. For example, there is not a well organized system of providing books in the library except for the self initiation support by some librarians who tell us where the books are found. As far as a personal guide is concerned, only one student is allowed to have a personal assistant in the university. Other than this, no opportunity is given to hire a personal</i>				

		<p>impairment get a better service than us. As this is, if there is a visually impaired person in the centre, we may get a much better supportive service from the centre. To tell the truth, there is one physically impaired expert assigned in the centre, and he is giving a much better service to physically impaired students. In the same way, I believe that if a visually impaired expert is assigned in the centre, we may get a better service. Although inclusive education is a good system, it can't have an effective result if the university doesn't give the appropriate supportive services. In general, it is very difficult to say the centre is giving a full service as it doesn't have other experts except the two (the expert and the director). There should be somebody who follows up the head of the centre. As it is only she who gives guidance and counselling service, it is not effective. The presence of physically impaired expert in the centre helps those physically impaired students. They get internet service in the centre, but he doesn't have a good / positive attitude to us. When we go to the centre, he</p>	<p>reader as well as peer-tutor. That student was allowed to have somebody as a guide because he has double impairments (visual and physical impairment). As we are not supplied with other alternatives other than using the books available for sighted students, I would like to say that it is one of the reasons for getting lower results in examinations.</p> <p>We don't have personal readers or peer-tutors as there is no budget to assign them. Budget is assigned only for exam readers. Although it is not sufficient, we have the access to read CD writing on computers that are available at the Kennedy Library.</p>				
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		<p><i>ordered us to go to Kennedy Library where eight computers with Jaws software are placed. There are also two scanners in the centre, but we are forbidden from using them. We don't also use the embossers which are available in the centre. They are not doing anything that supports us.</i></p> <p><i>The other problem is that we don't have anybody to read for us or peer-tutor is not assigned to us. We can't find readers by ourselves because no financial support is given to us. Regarding this, those universities, such as Hawasa and Mekelle Universities that start such kind of service recently are better than University A. Their financial or budget support is somewhat good, and when we asked them based on this, nobody gave us a response. I think that treating students with VI seems beyond the capacity of the university. A lot of students with VI prefer University A just because it is an experienced one, or rather for its name. I think others are practically better than it. We asked the top management to allow us</i></p>					
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		<p><i>budget to get peer-tutor four years ago. No response has been given to us up to now. If we have this budget, we may get peer-tutors without any problem. The peer-tutors will also be happy to support us as they can get pocket-money.</i></p>					
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**Table 9 Question 6.4:**

*To what extent do you feel that the shortage of accommodations or modifications on curricula, learning and teaching strategies, assignments and assessment procedures affects students with VI to take the full advantage of the existing inclusive learning and living opportunities on offer at UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
<p><i>No special thing is done for students with VI in the other departments except for the departments in social work and law because of lack of positive attitude towards us. They do not do what they should do because they think that students with VI should use what is available, not something special for them.</i></p> <p><i>We are not made to take courses related to number as they consider that we didn't take</i></p>	<p><i>In addition to what has been mentioned, some teachers provide us reference materials, or course outlines in print format. The problem is that we are obliged to find someone to read the books as they are available in hard copies in the library. If we don't do this, we can't answer questions prepared from the hard copy books. Some teachers teach us using a laptop and LCD. We again cannot answer questions taken from the LCD presentation as we don't have the</i></p>	<p><i>The way of treating students with VI is different from department to department. For example, there is something special in law and social work departments as there are some lecturers/ teachers who have some understanding about visual impairment. For instance, as there is one visually impaired lecturer in social work department, there is something better there because of him. To cite as an example, the lecturer who teaches federalism in law</i></p>	<p><i>There is no difference on the kind of teaching and learning process as well as assignments that are given to us and for the other sighted students. No modification is made. To cite as an example, when worksheet is given, it is given in writing, not in Braille or listening form for students with VI. We also submit the assignments on the same day, and this has also its own negative impacts on our results. I said this because the</i></p>	<p><i>As far as the teaching-learning process is concerned, there are two students with VI including me in my classroom. Whenever students know the day on which examination is given, they tell us the day one day ahead. Of course, some teachers tell us the exam day in the class, and some other teachers post the day on the notice board. It is on this condition our</i></p>		<p><i>As mentioned earlier, the sighted students know that the assignment is given in the form which is unsuitable to us, and therefore, they form groups excluding us. We students with VI are left alone. They just give us information about the assignment after they finish doing it. Therefore, we cannot finish and submit the assignment as it is not given on a Braille or tape recorder. As the</i></p>	<p><i>As participant 5 said above, we only take notes by listening to what the lecturers are saying in the class. No possibility to record on a tape recorder. We can't record the lecturers' explanation as we don't have a recorder that is given to us. We also do assignments based on what we listen from the lecturers' explanations in the class. In spite of all these difficulties, we are allowed equal time to do examinations. Besides, we find examination readers by ourselves and if the readers are late by chance, no one understands our problem</i></p>

<p>mathematical subjects when we were in high schools. Based on this, they think that we are incapable, not because we are incapable.</p>	<p>access to get what they have shown using LCD. For instance, I personally faced a problem regarding LCD presentation. One day, a teacher presented a diagram through LCD and he asked us eight questions from that diagram and I couldn't answer them. I tried to get the teacher to explain something about the diagram in the examination paper, but he didn't come. So, I wrote on the answer sheet the fact that I am a visually impaired student. I didn't have any other alternative other than this.</p> <p>There is a change on courses that is considered in the curriculum. For example, we took a course which is elective in place of a statistics course which is more of number and challenging to students with VI.</p>	<p>department often explains the lesson with different figures for we students with VI alone. Although this kind of good treatment is observed in the two departments mentioned above, there is not this kind of good treatments in the Social Science and ILS departments.</p>	<p>sighted students read and do the assignments by themselves where as we search for somebody to read and write the assignments which is time consuming. As we submit equally with the sighted students, we are not successful to compete with them. Even equal time is allotted for examinations. We take examinations by having others read to us which has its own impact on the time we spend in doing the examinations. Besides, we take examinations on the corridors of the classrooms where sighted students are taking the examinations. This is also inconvenient as people are creating noises while they are walking through the corridors.</p> <p>When asked whether or not invigilators arrange exam rooms and additional time for students with VI, he said his department as well as other departments never arranged exam rooms and</p>	<p>sighted students tell us on Thursday for Friday's examination. In addition to this, as it is mentioned by others while the sighted students take examinations in the classroom, we take examinations on the corridors. As a result, it is high likely to be disturbed by noises. The other thing is that there are no other alternatives to get lecturers' lecture or explanations except taking our own notes while they are teaching in the class.</p> <p>In Amharic department, for example, there is a research course that is given, and there is one visually impaired female student who got 'F' in the course. Because of this, she could not graduate. To graduate this year, she should take the course again and remove her 'F'</p>	<p>sighted students do the assignments going here and there, we cannot compete with them. Although we are capable of doing the assignments, we cannot finish and submit them on time as the materials that are given to us are incompatible. We even cannot forward this as a reason for the university.</p>	<p>and tolerates us. When the sighted students are made to stop doing the examination, they also made us stop doing the examination at the same time.</p>
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			additional time to us. For instance, if 30 minutes is allotted for the examination, the same is true for we students with VI.	score. She asked the department to allow her to take that course, but the course is not given this year. Thus, as the course will be given next year, she is obliged to wait for one more year without learning.		
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**Table 10 Question 6.5:**

*To what extent do you feel that inaccessibility of physical environment, materials, and equipment affects students with VI to take the full advantage of the existing inclusive learning and living opportunities on offer at UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
As to me, the blockage on the road to minimize the speed of cars is not good for us when walk on it. Although it seems something good, I found it troublesome. As to entertainment, no football field convenient for us is made ready. Though we want to play in the field, no ball with a bell is available in the university. If we ask the university to buy it for us, they will say no with no	Generally speaking, nothing is done in this university thinking that students with VI will come. Probably, there is a kind of blockage that was made to minimize the speed of cars on the campus road which I think was made for sighted students. Other than this, nothing is made for students with VI in the university around the dormitory, toilet, basins, and the like. On the other hand, a kind of passage is made for those		There are a lot of things that should be improved in the university as far as the buildings and roads are concerned. As the edges of the stairs are damaged, we are in difficulty to use them. On the asphalt roads too, there are ditches dug here and there which are challenging to us when we walk as there are no signs that show us. When we go to the classrooms to learn	Nothing is prepared properly for we visually impaired female students around our dormitories. We are assigned in one of the dormitories which were prepared for sighted female students. The toilet room is not ready in such a way that visually impaired female students can use it with the help of a cane. As we		When we go to our dormitory and away from it, we usually face a problem to go up and down the stairs as there are no any signs at the right or left side. There are nine computers that give service to us in the Kennedy Library. These are the computers with Jaws software that all students with VI are using. When we get the chance to use the computers, it is only one of them that work with	

doubt and we kept quiet. We use a chess made by us, playing cards, and others to refresh our mind.	impaired students who use wheel-chairs around their dormitories. There is nothing made for students with VI in the university.		as well as to study, we get the chairs disorganized. As result, we are obliged to arrange them to sit as there is no one who arranges them suitably to us. We also sit improperly. In the library too, we cannot find and use books as they are often misplaced.	don't have our own basin, we share with those sighted students. Therefore, although it is inconvenient to us, we still use it with difficult situation.		CD. We only use CD if we get the possibility to that computer. Besides, we also need earphones and flash discs, but we do not have them. When we also look at the toilets and basin, there are not suitable for us. We use with those toilets and basins prepared for sighted students. Nothing is arranged for us.	
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**Table 11 Question 6.6:**

*To what extent do you feel that unavailability of adaptive/assistive technology affects students with VI to take the full advantage of the existing inclusive learning and living opportunities on offer at UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
	<p>Of the visually impaired female students in my dormitory, there is only one who has her own personal laptop. No one has a laptop except her, and nothing is supplied to us from the university.</p> <p>Manual slate and stylus for writing on Braille are given to us once when we join the university. No more is given if we in case lose</p>	<p>Among the technologies, Braille typewriter is one which is available in the university. However, we do not use the Braille typewriter while there is a shortage of Braille paper as it is imported from abroad. There are three scanners in the disability centre although we do not use them as no expert who uses the scanner is assigned. Moreover, a centre on audio material having nine tape recorders is</p>				<p>Of the assistive technology, using personal laptop is one. In this university, it is unthinkable to support students with VI by providing them their own personal laptop. It is really difficult to think of this kind of assistance. Of course, there are one or two students with VI who have their own personal</p>	

	<p>them or if they are broken.</p>	<p>established in the library. However, it is not functional because no expert is assigned. There are also nine computers in the Kennedy Library, but no e-books are loaded in them. There are some students who bring e-books using CD by their own from the American Embassy and use on the computers. Except three Amharic poems on CDs in the university, there are no other course materials in CDs. There are also no ways for presenting visual pictures except for showing them. The information that we get from others is that there is software which is called screen reader that enables us to listen to any writing on a computer. These things are not available in the university. There is also an instrument which is called embosser that can change writing on the Braille. As there is no expert who can use the instruments in the university, we do not get any service. There are some recording tape recorders, but as there are few, they are given only for senior students, not allowed for first year students. Besides, no cassettes are provided, and we are not also using some digital tape recorders as their sound system is not working</p>				<p>laptops. For example, there are 17 students with VI in my department, and of all us, there is only one student who has his own personal laptop. Nothing is supplied from the university.</p>	
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		<p>well. They do not have microphones. When we ask the university, they simply said that digital tape recorders are bought. It might be the problem of the purchasers who bought the digital recorders that do not function properly. Thus, the only alternative that we have is to use the nine tape recorders that are available in the Kennedy Library in turn. The Braille paper which is found in our country is thick and we also get some from the university, but it needs force to use with our hands (manually). It needs force to use stylus and slates. There are also few students with VI who can write and read on Braille. The students who use Braille are those who learn their primary education in a special boarding school. Most students with VI who learn in regular government schools did not learn how to write and read on Braille, and as a result they have difficulty in using it. Thus, these students learn by listening to the lecture or by recording it using a tape recorder.</p>					
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**Table 12 Question 6.7:**

*To what extent do you feel that the social circumstances associated to gender, ethnic, and other cultural differences affect students with VI to take the full advantage of the existing inclusive learning and living opportunities on offer at UA?*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
Those students with VI who come from boarding special school have no problems in interpersonal communication as they were living together. However, those who do not come from boarding special school have some problems in their behaviour as well as communication. There is even a misunderstanding between those of us who come from boarding special school and from other schools.	There is a problem that we face because of gender differences. For instance, as there are a lot of things that are unfulfilled for visually impaired female students, some sighted male students approach them to help them, but they create problems on them. Although not many, there are few students with VI who are sexually abused. That means they are raped by those sighted male students who approached them to support academically. They are faced with this kind of problem without their interest. If they had been provided with financial and material support from the university, they would not have faced with the problems mentioned above as they could manage what they wanted by themselves.	Regarding the influences and problems because of different social backgrounds, there could be a problem due to cultural and gender differences. For instance, if we look at the place where we come from, those of us who come from Oromiya Region have no problem in reading and writing on Braille as we learn in boarding special schools. On the contrary, those students with VI who come from Amhara Region have some problems in reading and writing on Braille. They have a difficulty in communicating using Braille.					

**Table 13 Question 7:**

*Please, specify any possible solution to overcome those challenges mentioned so far.*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
As to me, what I would like to suggest is that let the university provide us with desktop computers first, and then our own personal laptop. If the cost of new desktop computers and laptops are expensive, let the university purchase second hand which might be cheap and give us. In addition to this, if a visually impaired expert is assigned in the university disability centre, we can get a much better service as he /she may have a positive attitude towards us and understand our problems. That is to say, there are three kinds of students who have three different impairments (physically impaired students, students with VI, and students with hearing impairment) who use in the	<p>What I want to say is that I have never got anybody who gives solutions for the problems we have raised since we were high school students. I think the solutions for all the problems we have raised are known. That means to fulfil those needs that we expressed earlier, to make convenient those environments and facilities that are problematic to us, etc., can be part of the solutions.</p> <p>As mentioned earlier, I think that assigning a visually impaired expert not only in the disability centre but also in each department can minimize the negative attitudes that exist in the university. These assigned visually impaired persons could also be given attention by their colleagues and heads. For example, I have two sighted friends who stay with me for more than two years. Nevertheless, they do not have the awareness about visual impairments.</p>	As to the choice of department by students with VI, it will be good to give the opportunity for them to be assigned in a department by their first choice. The other thing is that there should be a responsible body that is accountable to implement what is stated in the university legislation. There should be someone who follows up the students with VI. For instance, there might be some new students with VI who come to the university without a cane. There should be someone who can find solutions for these kinds of students. The lecturers and administrative workers in the university should be given awareness raising training on students with VI. Besides, supportive teaching facilities and technologies, for instance, laptop should be supplied by the university. As to me, the university has the capacity to do, but it does not give attention to us. For example, if	As mentioned earlier, there are different kinds of problems that we face, and we want those problems to be solved. Fulfilling the facilities by itself is not enough. For example, there are nine computers in the Kennedy Library, but to use the computers properly, training should be given to us as well as to those workers in the centre on how to manipulate them. Furthermore, training should be given to us on how to use a calculator, cane, and how to move inside the campus by those people who have the skill and experience. Training is important for those students with VI who don't know how to read Braille and write on it. Written materials /published materials should be changed into Braille and CD and made available for students with VI.				I think that it will be good for University A to have a meeting with students with VI every three or four month to discuss with the problems we face and whatever ideas we have.



<p>centre. Thus, it is good to assign three different experts that are appropriate to our impairments to support us very well.</p> <p>What I would like to suggest to other students with VI is to join and learn in other better universities.</p>		<p>the university supplies two desktop computers for four students with VI in each dormitory, it will support them a great deal. As ICT training is not given for visually impaired student while they are in high school, it is good to give a special training for them when they join university. As it might not be good to demand a lot of things, I think it will be good if the university improves what I explained above.</p> <p>The expert that is assigned in the centre should be not only a disabled person but also someone who has got training on the disability he/she is assigned for. For instance, someone who is assigned to support the students with VI should have taken training on this impairment.</p>	<p>The roads should also be repaired in such a way that they do not create problems on us. Especially, the university management should attempt whole heartedly to make the university instructors change the negative attitudes they have towards the students with VI. The management should also follow up whether there is a change or not in the way the university treats students with VI.</p>				
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**Table 14 Question 8:**

*If you have any other suggestions for this study, please specify it.*

Participant 1	Participant 2	Participant 3	Participant 4	Participant 5	Participant 6	Participant 7	Participant 8
As to me, it is good not only to give the action plan by the end of the study to University A but also to follow up every six month whether the university will be working as to the action plan that will be proposed or not.	You, the researcher of this study, are working in a higher institution that makes you different from the others who interviewed me earlier. So, what I would like you to stress is that in addition to the personal benefit that you will get from the study, you should come back and check the findings as well as the impact of your study. As you told us in your introduction, a five year action plan will be prepared and presented to University A. Therefore, it will be good to follow up what will be implemented and what will not be. Thus, I want you to come again and confirm as well as follow up whether what we have asked is improved or not.	As we are informed from the interviewer, one of the objectives of the study is to prepare and submit a five-year action plan for University A. Besides, it will be good to give the action plan for the concerned bodies, I mean, to the Ministry of Education and to those universities that will admit students with VI. For example, if the plan is given to Bahir Dar, Hawassa, and Haromaya Universities, it will be helpful to the students with VI whom they educate.					As mentioned by others, I think that the researcher should exert his effort to follow up the implementation of the action plan that will be proposed

I would like to thank you for your honest reflections to my questions.

## APPENDIX 6: A TRANSCRIPT OF THE INDIVIDUAL INTERVIEWS OF VISUALLY IMPAIRED STUDENTS

Responses to individual interviews with students with VI (a male 5<sup>th</sup> year student from law department and a female 4<sup>th</sup> year student from social work department) in University A are presented as follows:

### Table 1 Question 1:

*To what extent do you think University A is placed in implementing a policy guideline or legislation to ascertain the rights and equal beneficiaries of students with VI in all their lives and education in the campus?*

Student Interview (SI) Participant 1	SI Participant 2
<p><i>I think that University A has got its own legislation or legal document. There was a situation where by the university's academic vice president expressed the fact that the university's legislation is prepared recently. Although it is not directly informed to us, I think that there is something in the legislation that may benefit the impaired students. If it is in place, the university can explain it when we ask support. Nothing has been informed to us whether that legislation has given attention especially to the students with VI or not. Even if there is something in it, we saw nothing practically. There is nothing special. When ask them to give us support, they often reply they cannot do so.</i></p> <p><b>Question:</b> Are you asked to participate to forward your own suggestions on the legislation which is recently prepared to ensure the rights and equal opportunities of impaired students, including students with VI?</p> <p><i>Our participation has never been asked on the legislation that is prepared. It has never been practiced in the university. We know that we should give our suggestions as to the UN conventions as well as the experience of the universities abroad. However, we were never asked to forward our suggestions before and after the preparation of the university's legislation. No orientation was given for students with VI about our rights and its legal background. As I was working in the club of impaired students, I got the chance to know that a new legislation was prepared two years ago. No opportunity was created for the other impaired students to know about this. As nothing was put into practice, nobody knew about the legislation of University A.</i></p>	<p><i>I cannot say there is a policy or legislation in the university that ascertain the rights and equal beneficiaries of the students with VI. As a whole, there is nothing that benefits us and stands for our rights. It is better to say there is nothing worth mentioning, except for doing very little things to us. For instance, 120 birr is given to all disabled students for our expenses every month. Other than this, there is no law or system that is legally documented and implemented so as to respect the rights of students with VI. The monthly payment that I mentioned above is provided since we are registered as students with VI of the university. Otherwise, it is not done taking the fact that it is the right of the disabled students to get so. For that matter, we do not even know by whom and how the monthly payment was decided. I think that there is no a legal document that ascertain our beneficiaries even in the disability centre.</i></p>

### Question 2:

*Please mention the problems and challenges that students with VI might face in relation to the following issues while they are living and learning in University A.*

### Table 2 Question 2.1:

*What are the problems and obstacles that can be mentioned concerning the perception of the university towards the theoretical model (medical model, social model, etc) on which the students with VI' inclusive education is based upon?*

SI Participant 1	SI Participant 2
<p><i>As to our inclusive education is concerned, there is something vague about the model on which the perception of the university relied on. For instance, when we choose our field of study, they sometimes accept us. After we are assigned, however, they do nothing special to us other than telling us to use what is available. Besides, once they accept in the field we chose, they do not make adjustments on the teaching learning process as to our needs. They simply consider that the problem is due to our visual impairment. Therefore, as there is a feeling in the university that students with VI should decide the fact that whether or not they can learn in a situation as it is, it has created a problem on us.</i></p>	<p><i>Regarding the theoretical perception of the university is concerned nothing special arrangement is done to us. The university admits the visually impaired as well as other students equally. That means when the visually impaired student is assigned by the Ministry of Education, the university admits him/her. The university admits us when there is registration just like the other students. They also give us dormitories in the building where our sighted peers placed and they expect to let us attend the lesson in the classroom where we are assigned.</i></p>

**Table 3 Question 2.2:**

*What problems or challenges are there in relation to making accessible general information for students with VI through some form of audio or Braille before admission, during admission and after admission?*

SI Participant 1	SI Participant 2
<p>Most of the time information reaches to the students before admission, during admission and after admission through notice board by writing. The information that is posted on a notice board is not made accessible to the students with VI through audio material or Braille. Whenever there is information about us, it is posted on a notice board. At this time, those sighted students who are our friends tell us or if we hear that information about us is posted, we ask them to go with us and read the information to us. This is how we get information. Thus, as notice is not posted through Braille for the sake of us, we try to get information by asking those sighted friends or those who are partially sighted. For instance, lecturers posted a notice about exam schedule, and at this time we search for readers to let us know when and where the examination will be conducted. If we do not get anybody to tell us the information, we may miss the class or exam. For this reason, i.e., because of failure to know the program, there are a lot of students with VI who miss makeup class and exam. We face great challenges in accessing information.</p>	<p>There is no situation in which we are made to access information through audio or Braille before and after the university admits us. We are required to get information in the visual way just like the sighted students. When the university admits us for the first time, they provide us the written form to indicate the field of study we want. We just fill in the form that is given with the help of our sighted friends. We just decide our field of study based on the information that is given for all students during orientation. No special orientation is given for students with VI alone. Taking the experience of the senior students with VI, most students with VI just select their fields of study from three faculties, namely law, social science and language studies and fill them in the form provided. We are obliged to limit our choices on the above three typical faculties only and departments under them because no information is given by the university about which kind of field of study we should choose or not.</p>

**Table 4 Question 2.3:**

*What are the problems or challenges that exist in relation to the presence of clear policy guidelines and legislation on the provision of additional support services for students with VI? For example, mention problems and challenges in accessing guidance and counselling services, mobility training, academic and social support from lecturers, special needs experts and peers.*

SI Participant 1	SI Participant 2
<p>I think that there could be guideline which is prepared based on international laws in the Ministry of Education. However, it is difficult for me to say there is a clear policy or law in University A which enables students with VI to get different supports 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 are some supports the university provides us, they do it not because it is our legal rights but they do consider it as a charity. For instance, 120 birr is given as a pocket money monthly to all impaired students, but it is not clear to us who decided this and under what legal condition. This support is given to us as a charity, not as a legal right. When we ask them to make improvements on the pocket money they give us, no response is given. Nobody knows where this kind of decision comes from. For example, we asked those people working in the department of law about the fact that paying 15 birr in an hour for those who invigilate us is not enough. The response that was given to our quest was that it used to be paid 15 birr per hour for invigilators, but students with VI asked that 15 birr was not sufficient for those exam readers. There is also a disability centre established by the university. This centre provides six reams Braille paper for prospective graduate students and three reams for others for a semester. Sometimes as the number of reams that is given decreases, it is impossible to say the support that we get from the centre is guided by law. If it was guided by regulation and law, the reams that are given to us would not be inconsistent. As a result, the provision of Braille paper is guided unconsciously, not consistently based on rules and regulations.</p>	<p>Nothing is informed to us whether there is a policy guideline or legislation that explains about the provision of additional support services and arrangements that should be made to the students with VI in the university. I, for example, asked the university to assign me in the department of social work and they assigned me in that department for the first time. I was not forbidden from joining the department, except for telling me the fact that I would face shortage of materials. Of course, nobody told me about the advantage that I would get from joining social work department. Nothing was also explained to me about the kind of support that I could get because of my visual impairment and I did not also know whether there was a legislation that allowed me to raise such kind of questions or not. Through process, we are not even made to know what kind of arrangements and support services could be given to us either orally or in written legal documents, except for telling us what some voluntary teachers could do for us.</p>

**Table 5 Question 2.4:**

*Please mention the problems and challenges in relation to the criteria which are implemented to assign the students with VI in different fields of study.*

SI Participant 1	SI Participant 2
<p>I do not know exactly what the criteria are to assign students with VI in different fields of study after they are assigned in the university by the Ministry of Education. Although some students with VI chose some departments by their choice, for instance, Music, they were not allowed to join saying that they were incapable. Nobody said the students do not fulfil the criteria. In general, I know that we are not allowed to join some fields of study not by taking our result into account but simply by saying we are incapable. As we are totally forbidden from joining Natural Sciences from the beginning, no visually impaired student raises the question. We are even not allowed to join some Social Science fields, including Journalism, Management, Economics, etc. even if we want to study them. We are not allowed to join Economics because they said that it has graphs and calculation which we cannot do. I think that if we were allowed to join them and they adjusted their materials in line with our needs, nothing would be difficult for us to learn in the above fields.</p>	<p>One of the challenges that students with VI face when they choose the field of study is that we are given limited number of departments to join. When we asked the academic vice president to let us join other fields of study other than the usually ones they replied that it was because of scarcity of materials. For instance, although there are some students who are students with VI and want to join fields, such as journalism, linguistics and music, they are not allowed. That is why we say our right to join vocational fields is limited.</p> <p>As long as the criterion for the choice of fields of study is concerned, we are expected to compete with our sighted peers on the basis of results in the National Secondary School Leaving Certificate Examination and Higher Education Preparatory/Entrance Examination. Accordingly, they announce the number of students they accept in each department. When we apply even to join the departments allowed to us, no priority is given to students with VI except using our results for the competition. If I tell you mine as an example, the Social Work Department announced to accept 40 students in the year 2010. At that time, 200 students applied to join that department, and of those students, 17 students were visually impaired ones. Of the seventeen of us, they accepted only four of us according to our good results. In this academic year, I heard that visual impaired students are assigned in different departments as to their results, not by their first choice. Although the implementation process is different from one department to another, our university has used the same criterion to assign both sighted and students with VI at the department level. In general, there is no special consideration in terms of criteria for placing students with VI into the common programs of study.</p>

**Table 6 Question 2.5:**

*What are the challenges or obstacles that are related to students with VI in the provision of necessary and sufficient resources, such as human, physical, financial and time resources?*

SI Participant 1	SI Participant 2
<p><i>As to the manpower in the university, those lecturers, especially those who learned with students with VI have a much better positive attitude to us. On the other hand, those who did not learn with students with VI do not have good attitude to us. In some rare cases, there are few lecturers who are convenient to students with VI. For example, there are some lecturers in the department of Law and Amharic who provide us their educational materials in softcopies or on Braille. Other than this, most of the lecturers are not good for students with VI as they lack the awareness about special needs education. They do not have good attitude too. The other point is that there are no experts that give guidance and counselling service for students with VI. Although there is one PhD holder in special needs education assigned in the disability centre, she has nothing to do for students with VI other than leading the centre responsibly. As she is the only skilled expert who is working for all impaired students in the university, it is difficult for her to give us support. There is no body assigned as a peer tutor by the university other than those of our friends and volunteers who sometimes read the written materials for us. Leave alone this, there is a situation where by students with VI search for people by ourselves to read examinations.</i></p> <p><i>There is no also permanent personal assistant who is assigned for we students with VI. When we first came to the university, there was nobody to show us the places and give us mobility training. The only alternative we had was to help one another. Those senior students with VI were helping the newcomers to practice mobility training in the midnight when there was nobody on the ways. At this time as the senior students with VI are familiar with the different offices where students get services, they let the newcomers know where the offices are and practice the way to the offices. I was also trained like this. There are some students with VI who do not get this opportunity. Students with VI go in three-four very close each other from their dormitory to the class because the one who knows the place among them can help the others who do not know.</i></p> <p><i>In general, we get no support from relevant experts in the university as well as organizations outside the university. Of course, I heard that an organization which was founded by a visually impaired woman gives slates and styles for writing on Braille because of the link she has with the university. As most students with VI do not know how to read and write on Braille, it is difficult to say the material support that the woman granted contributed to all students with VI.</i></p> <p><i>There are different problems in connection to physical environment and facilities. Although the roads are not constructed taking our problems into account, it is good to see that the roads are asphalted in the university. There are no roads suitable to us around the buildings. We know that if we ask the university to make adjustments, it won't be accepted. Therefore, we are trying our best to use the buildings available whether we like it or not. As there are no signs at edge of roads, we make our sign by sensing. For example, when we go taking the edge of the road, we, take the holes or cracks that we get on our way as our signs to recall where we reach. As there are also no signs in the buildings, we try to identify where we reach by counting our strides. We also identify the doors by sensing them as there are nothing made on the doors to enable us use easily. Even we are sharing bath and toilet rooms together with the sighted students. As these rooms do not have doors and key, we are faced with difficulties. When we take showers, for instance, as there are no doors and cannot be locked, the sighted</i></p>	<p><i>It is very difficult to say suitable manpower will be adjusted to the students with VI in the university. As to me, the university does not consider whether there are students with VI in the university or not. For example, we just beg sighted students to read the written materials for us during examination time as it is difficult for them to stay with us ignoring their study. During examination, it is we who search for students that could invigilate us by reading the question papers as well as writing the answers for us. Sometimes, they become bored and became disinterested because of the unexpected nature of the examination. For example, teachers sometimes prepare a matching type question which includes a lot of responses (for that matter A-Z matching alternatives). As this spends much of their time on reading all alternatives for each matching question, the reader students face problems in invigilating us. As a result, those who came as to their schedule went away leaving the students with VI. When we beg them, they ask us to be paid 50 or 60 birr which is more than the 15 birr that is allocated by the university to pay them per hour. We are obliged to pay the money they demand as we have no other alternative. As nothing is done to solve our problem, we take it for granted that the university doesn't give us attention. It is not only falling to assign invigilator to us, but nothing is done in arranging personal assistants and specialists to support us. Nobody thought about the importance of writing the exam in Braille. If this is done, it may create a problem as there could be some students with VI who do not write and read using Braille. Anyway, there is nobody who considers our problem in relation to examinations.</i></p> <p><i>The accessibility of physical resources is the other challenge for students with VI in the university. When visual impaired students come to get dormitories, proctors just do what they do to sighted students. They never arrange anything special to the visual impaired ones. Although there are some proctors who feel our problems, they never take any measures as a solution realizing the fact that we are students with VI. They assign us on the upstairs as well as in the middle of the buildings just like the other sighted students. What they do regarding dormitory is that they assign eight students with VI together in one dormitory. Except this, they never adjust anything for us. Even they make us share and use toilets and bath rooms with the sighted students. As some students who do not have free toilets in their building (for example students from the so called 'China Building') come and use our toilets, it is very difficult for us to use in the toilet after the others use in it. We usually try to use the toilet immediately after it is cleaned before it becomes dirty. This problem is created because proctors as well as cleaners do not keep the cleanliness of the toilet all the time. Besides as there are no suitable toilet rooms for students with VI in their own building, this again shows the weakness of the university. The basin is also prepared for sighted students and as a result we have a problem to wash and dry our clothes there. For that matter, our clothes might be taken away. We share the shower rooms with the sighted students. Although we have showers around our dormitories, they do not have doors and we ask whether there is somebody inside the shower or not. As the showers rooms do not have doors and we cannot lock, we sometimes lose our soaps and face problems. The place where</i></p>

students take our clothes. When they take our clothes and knowing that we cannot see, we become very upset. There are no toilet rooms with suitable seat to us. The toilet rooms also do not have doors which make us worried when we use there. As the toilet rooms do not have doors, we sometimes make a sound while we are using there in case others may pour water on us. There are also no comfortable chairs in the classroom. As arm chairs are disorganized in the classroom, our mobility is very limited. As there is no regulation about sitting arrangement in the classroom, we try to sit at front arriving there earlier than the other students. As our sighted students are accustomed to our preference, they sometimes leave the front seats to us. This is taken as a good practice in the department of law. In the other departments, however, there is no this kind of sitting opportunity for students with VI.

Regarding recreational centres and facilities, nothing is made ready considering us. We use the recreational centres prepared for sighted students if we can so. We are given a separate small room where we can drink tea. This has been a common practice since many years back. The waiters/waitress come here and serves us what we want. We also have our own room in the dining hall where the waiters/waitress serves us what we eat. The materials with which we eat are those used by the sighted students. No orientation was given to us on how we use in the dining hall and have our meal in the dining hall. We eat our meals as to our habits and as we like.

As to the teaching-learning materials is concerned, handouts, worksheet, course outlines and others are, for instance, given to us in hand written form, not written in Braille or recorded on a tape recorder. Some lecturers, for instance, two lecturers in the department of law have given us handouts on a softcopy. This is again done because of the willingness of lecturers, not because of rules disseminated from the university. Due to the above reasons, there are some students with VI who may not get this opportunity.

Concerning the supportive technological materials, we know that there are two embossers and scanner in the disability centre. Nevertheless, as there was no expert assigned, the materials were put without giving service to us. We are not even getting training on how to use them. There are also computers with Jaws software as well as walkman and digital recorders in the audio materials centre though these are insufficient. Other than these materials, supportive technologies, such as Braille typewriter, talking calculator, abacus, etc. are not available in the university. On the contrary, in those special elementary schools where we learned, these technologies were giving services to students with VI. Since these supportive materials are not available in the university, we are obliged to find them by ourselves. As we will compete with sighted peers after we graduate, it is really very challenging for us if we don't get services through supportive materials and technologies in the university. It can be possible to overcome the problems related to dormitories by ourselves. However, the university should consider the provision of technological facilities. For instance, as there is scarcity of reference books in the library, there is a situation in which we get the chance to read the books for only an hour. This creates a critical problem on us to read by the support of our readers. It will be good if we get the books through audio or copied on Braille. It was possible to do, but as there is no positive attitude in the university we are exposed to problems. I think that there is a digital centre/library with some materials donated as aid for serving us, but it is not giving appropriate service since no trained worker is assigned by the university. If this was functional, a lot of things would be changed. When we ask the university to make it functional, they simply said that a worker is assigned in the centre. Hence, as they are unwilling and lacks positive attitude to us, we cannot use the digital centre properly. As to the computers, there are 10 in the Kennedy Library and 13 in the law school library which is totally 23 computers with Jaws software are available. If the university gives us the teaching materials in softcopies, we can read them in those computers. Moreover, if we are

we have tea looks like a small kitchen which is narrow to accommodate if a lot of students with VI come at the same time. For this reason, there are some students who are entertained where they stand. As our food is cooked in the room, there is no enough space.

Regarding classrooms, our problem is not considered and we are made to learn where ever the sighted students are assigned to take the courses. Contrary to this, when we were in high schools, the ground floor was assigned for the sake of us. This kind of adjustment is not made in the university. As there are times for us to be assigned upstairs, we sometimes face problems when we go up and down the stairs. The classroom chairs are not adjusted and made ready to us. As the chairs are disorganized, we usually organize the chairs and sit on them. Whenever classroom or other things are built, no adjustment is made considering students with VI. Although there are other students with severe physical problem, nothing has been done taking their problems into account. Everything is made considering the non-impaired students, not for us. For example, there is a special reading room (computer room) arranged for us in the main library. However, it demands us to go upstairs and the room is narrow. Although there are few computers in the library, there are few sockets to use. When the computers are damaged, they are not repaired immediately. There is not anything made on the paths to the students with VI. The worst one is there are paths damaged because of new constructions. For instance, we cannot walk properly through what is called '5<sup>th</sup> gate' as the path is full of mud. If we do not get anyone to help us, we face an obstacle to go through there. Nobody thought the fact that this path can create problems on the students with VI. The ditch was dug five months ago and it is still there without taking any measure to adjust it.

As far as assistive materials and technologies are concerned, there are nine computers loaded with Jaws software available to the students with VI in the main library. We have the possibility to use them in turn, but others may not get the chance to use them. In addition to the scarcity of computers, first year students with VI cannot use the computers as no training is given to them. It is said that there are scanner and embosser in the disability centre, but we do not get any service saying that there is no expert to serve us. Of course, six ream of Braille paper for senior and three reams for fresh students with VI are given per semester from the centre. The brail writing materials (a slate and styles) were given once when we joined the university. They give cane for those who choose it instead of getting a slate and styles. As it is given only once if somebody loses or breaks it by chance, it is difficult to get again. There are some students with VI who took canes by their own choice and who go without it as it is broken.

Regarding finance, we are given 120 birr allowance per month, which is used for the purpose of keeping our hygiene. The allowance given is the same for both female and male, which was decided eight years ago. Today, the price of materials becomes expensive, but no adjustment on the allowance is made. The other thing is that we are given money to pay for readers, but as it is not enough it is only allowed for final examination. Whenever we have tests and mid-exams, we cover the readers' expenses by ourselves. The money that is allowed for readers is given by the university after the examinations. Since the university delays the payment, it is difficult for us to get readers unless we pay them ahead or immediately after the examination. Moreover, we are allowed 15 birr per hour for a reader but now the readers are demanding us to pay them from

given training on how to use the computers, we can use the computers available in the university.

There are around 20 students with VI of the whole from a well-to-do family who have their own personal laptops. These students can also use the softcopies in their laptops if they get the training.

Regarding times, no special consideration is given for students with VI. For example, we students with VI learning in the school of law will take an exit exam at the end of completing our learning along with the sighted students. For this exam, we have asked the university to give us additional time to read different books so as to make ourselves ready well, but they refuse and oblige us to take the exit exam with the sighted students. If the university allows us to additional time for the preparation of the exit exam, it will help us as we compete with the sighted students. However, there is neither good attitude to us nor policy to make the university support us fairly.

The other thing is that we are sometimes allowed to do for a maximum of an additional ten minutes for a test that lasts for thirty minutes. This is done by those very few lecturers who have good attitude towards us.

Concerning finance, the university does not assign adequate budget for students with VI. I think that there is no as such a law for this purpose. I remember that we were once given 200 birr when we asked the university to allow us a budget to change handouts into softcopies. That money was used to change handouts on one subject into softcopies. It was not only sufficient but also discontinued after that time. All in all, 120 birr is given for all impaired students as an allowance monthly. However, we do not know for what purpose that amount of money is assigned, except getting some information as a rumour that it was assigned to keep our sanitation. If this disability allowance was assigned to cover our additional educational expenses, it would not be enough. For instance, if we want to record any writing on a cassette, we pay more than 30 birr. When we ask the readers to read written materials for listening or recording, they ask us to pay them a better payment. For this reason, the 120 birr that is given monthly is not comparable with the expenses the students with VI spend on recording materials and for their peer-readers. We often record the written material while the peer is reading it. For the payment of reading, cassette and dry cells we almost spent up to 50 birr to record our handout on a cassette. Therefore, I would like to say that no budget is allocated from the university considering all these expenses. Other than the monthly allowance, the university allowed to pay for only the readers of our final examinations. It is only 15 birr per hour that is allowed to pay exam readers from the university. This is again incompatible with what the exam readers ask us to afford them.

30 birr up to 50 birr. There are also some who ask us to pay 60 birr and above. What is assigned from the university is 15 birr per hour and they get only 12 birr after being taxed. As we have no alternative, we just pay whatever the readers ask us to do so. The other main problem for us is to ask sighted students read the materials and record them. The readers ask us to pay them 25 birr to tape the written material for an hour. The readers just count for how long they are reading. They simply said that anyone who is willing to pay the money can do so, and they have no excuse. As we pay this amount of money, we don't have sufficient amount of money to tape a lot of cassettes. We said this because we don't have any other choice as the university does not afford us the finance for such purposes. We asked the university to solve our finance-related problems mentioned above, but there is no response till now.

Concerning time arrangement, there is no clear direction from university management. In practice, there are some teachers who allow us additional time during examinations. For example, there are some teachers who add ten minutes for a two hour examination. There are also who never add any time for students with VI. There are some teachers who collect our exam papers when they collect the sighted student's exam papers. Due to this, I can say the allotment of additional time to students with VI varies from department to department depending on the good will of lecturers. There are some departments where one can get students with VI facing problems. Fortunately, in the department, social work, where I belong, there are some teachers who allow us 10 up to 20 minutes additional time during final examination when we ask them to do so.



**Table 7 Question 2.6:**

Please mention the problems and challenges in relation to the accessibility of special support system for students with VI as well as for lecturers and administrative workers who give services to you. For example, mention any detail problems or challenges in getting special support from your lecturers, professionals who are trained on visual impairment and special needs education, experts of disability centre, advisors or counsellors, mobility trainers, and peers/mentors.

SI Participant 1	SI Participant 2
<p>In my opinion, those who can give different supports to the students with VI in the university are lecturers who are qualified in special need education. Although we knew that those people are found in the department of special needs education, they did nothing to us. We also heard that there is one female PhD holder in special need education who is responsible for the disability centre established in the university. Establishing this centre simply helps the university to be famous. It does nothing to students with VI other than hearing its name. For instance, the centre should support us by changing handouts or written materials into Braille and audio materials. However, the centre is not giving us any service. Its office is also very narrow and it does not have enough experts to support us well. As we also do not get adequate support from the mentioned bodies, our university result is becoming lower compared to our high school results. Most of the students with VI who are dismissed from the university because of lack of support had good results in high school.</p>	<p>Regarding any special support, there is nothing special from the sighted students. It is said that there is a woman who serves as a counsellor in the disability centre. However, none of the students with VI got advice from the centre. Leave alone getting advice, we never get her in the centre when we go there to get solutions for some urgent issues. There is not anyone who is assigned permanently in the centre as well as in the university who can give us training and orientation on how to move within the campus. There is not any special tutorial program arranged for us neither from the teachers nor from the sighted students.</p>

**Question 2.7:**

What are the problems or challenges that students with VI experience in terms of the following points?

**Table 8 Question 2.7(A):**

What are the challenges that can be mentioned regarding the accessibility of curricular and teaching materials?

SI Participant 1	SI Participant 2
<p>In a general sense, I think that implementing modular curriculum since last year is not beneficial to us because it is continuous assessment which is very much implemented through this approach. As there are several quizzes, tests, and assignments in the whole teaching-learning process, we are obliged to ask for the readers more often than before. I said this because it was one or two exams that we took earlier before the introduction of modularized curriculum. Now the burden is on us as continuous assessments require us to read a lot of written materials and find invigilators repeatedly. In other words, the continuous assessment that is implemented due to the modularized curriculum creates a problem on us since it is done without any additional support. That means when there are a lot of assessments, we are forced to use the readers often and pay a lot. Otherwise, we should get additional support when implementing modular curriculum and associated assessments. Especially, the implementation of continuous assessment would be preferable to us if materials were accessed in Braille and audio formats, readers or personal assistants were assigned for students with VI. The burden is put on us because continuous assessment is implemented without doing the things I mentioned.</p>	<p>There is not anything done to adjust the curriculum as to our need. When they give course outline for the sighted students, they also give us the same material in printed format. We just ask the sighted students to read the information from the course outline as no lecturer prepared it in a suitable way to us. We also get the reference materials listed in the course outline in a printed form (hard copy). We are in difficulty because we do not get the books in Braille as well as soft copy form. As the curricular material is not adjusted in such a way that we can use it, we usually face problems, especially when we write our senior essays and conduct research.</p>

**Table 9 Question 2.7(B):**

Mention the problems or challenges related to making the teaching-learning methods and approaches suitable to you.

SI Participant 1	SI Participant 2
<i>The main problem in relation to the methods of teaching of our lecturers is that they forget our presence in the class. Even they say 'as you can see from the projector' when they present the lesson in a visualized way. As most of the lecturers teach by pointing, students with VI are not benefitted from the lesson presented through a projector. As lecturers who use a projector implement visualized instruction, they should be oriented to verbalize or narrate the lesson to help us understand it. When we raise our hands to answer questions, lecturers simply say 'continue' without informing us. At this time, we do not know whether the chance to answer the question is given to us or not. We answer the question when the sighted student beside us tells us to do so.</i>	<i>Regarding the teaching learning process, there are situations when lecturers use a power point. Hence, they never ask us if there is any problem when they present the lesson supported with drawings/pictures. They do not care whether we understand or not. Our being there is none of their business and they never thought of us.</i>

**Table 10 Question 2.7(C):**

Mention the problems or challenges in relation to adjusting assignments and mode of assessments suitable to you.

SI Participant 1	SI Participant 2
<p><i>The main problem concerning the assignments and mode of assessments is that nothing is given to us in the form of Braille or audio other than a written material. Not allowing extra time during examinations for students with VI is another problem. Although there is a situation whereby extra time is allowed to us, it is different from department to department and from lecturer to lecturer as it is not allowed to do so formally. As there are some lecturers who allow us extra time for assignments and examinations, there are also others who never allow us to do so. This is again done by the willingness of lecturers, not something decided by the law and regulation of the university. This extra time is even added by our persistent demand and effort. When assignment is given in group, most students with VI are in difficulty. This is because of the fact that no material is ready suitable to us and the sighted students also think that students with VI cannot contribute to the group assignment since we do not get the source materials in audio and Braille formats. As a result, the sighted students do not want to work with us in a group. Up to now, we are begging and compelling the sighted students to make us member of the group and work with them.</i></p> <p><i>We also take the examinations prepared for the sighted students by finding readers by ourselves. We did this because no lecturer prepared the examination on Braille or orally. Leave alone this, neither the university nor the lecturers make readers ready to invigilate us. If we do not get readers, we may miss the examination. When we get readers, we face another problem related to their payment. No solution is given to us by the university other than paying the invigilators by ourselves. We do not want to have continuous assessments or quizzes for the simple reason that the university does not assign readers and even if we bring readers, the university does not cover the payment they asked other than 15 birr for an hour. If we get readers freely, we can take the quizzes and tests other than the final examination.</i></p>	<p><i>There is not anything done from the teachers' side to adjust the mode of assessment suitable to us. They use the same written assessment they prepared for the sighted students to us. They have never tried to give us the exam on Braille, or test us orally. In general, we are evaluated in the same way as the sighted students are evaluated. As we are invigilating on the corridors, there is a possibility to be disturbed by noise, and our readers also become fed up. The questions of examination are also prepared taking the sighted students in to account. Despite all these situations, there are teachers who never allow extra time in a special case for we students with VI.</i></p>

**Table 11 Question 2.7(D):**

*Mention the problems or challenges in making the physical environment and materials accessible to you.*

SI Participant 1	SI Participant 2
<i>Regarding the physical environment and materials, nothing is adjusted taking students with VI in to account other than using what is available for sighted students. As to me, the situation in the dormitory is better than the classroom situation since we students with VI are assigned together in one dormitory. This creates the opportunity for us to help one another and minimize our problems. As far as the classroom is concerned, we are assigned in the classrooms where the sighted students learn without considering our difficulty. Especially, when we are assigned in the classrooms in the upstairs, we are very much in difficulty to go there and attend the lessons well.</i>	<i>As I mentioned earlier, we just use the physical environment and materials made ready for the sighted students. Otherwise, no adjustment is made for us as far as physical as well as environmental things are concerned. There is not anything changed in the classroom too. Of course, if we want to sit at the front seat, we can go to class ahead of the others. In my classroom, there are sixteen students with VI and we can adjust the seats by ourselves and sit as we like. Anyone who wants to sit at the front can do so. I prefer to sit at the back with my sighted classmates. Those who want to record the explanation on a tape recorder can sit at the front.</i>

**Table 12 Question 2.7(E):**

*Mention the problems or challenges that you know about the provision and accessibility of supportive materials and technologies.*

SI Participant 1	SI Participant 2
<i>Concerning the provision of supportive materials and technologies, it is generally possible to say they are unavailable. Very limited material resources, I mean reference materials prepared in the form of softcopies are available in the audio material centre. As this is again not provided for all students with VI, it is totally better to say there are not supportive materials. As I mentioned earlier, although there is a situation where by we record lectures using a tape recorder, there is no opportunity to use supportive materials and technologies in an organized way in the university.</i>	<i>As I mentioned earlier, regarding supportive materials, there are some which are available to us. For instance, there are some who use tape recorder for recording. There is one female visually impaired student who brings her own digital recorder to our dormitories and almost sixty of us use it by borrowing from her. The university also bought some digital recorders for male students with VI, but they did not work due to quality problem. Normal tape recorder was used to be given to some students with VI up to 2012. For 2013-14 entry students, they were not given as there was scarcity of tape recorders. Although some students with VI had got a digital tape recorder, it required to recharge the battery which was difficult for them to do so. In other words, they had difficulty in using it. For this reason, there are some students who preferred walkman tape recorder to use by purchasing batteries. As the recorders in the audio centre/library are very few in number, only senior/graduating students have the access to use them. They are not allowed for freshmen students. The other thing is that students with VI have been given the chance to take either slate and stylus or cane by their choice. I for example, took only a cane because I was asked to choose. They do not provide all because of shortage of materials.</i>

**Table 13 Question 2.8:**

*Could you mention the problems or challenges that students with VI may have in the social affairs? That means problems in relation to sex, age, ethnicity and other social and cultural differences.*

SI Participant 1	SI Participant 2
<p><i>The social and cultural situations that students with VI face in the university could be the cause to make us be successful or dismissed. Of the things we face because of our differences in religion, for instance, the protestant students help only those visual impaired students who are protestant by reading and recording written materials. Although there are protestant students with VI who got the chance because of the same religion he/she follows with the sighted student, we (another religion follower) do not get the support directly. This is something not created by the university, but it is the partiality created by the students who follow the same religion. Besides, there are also some students who help students with VI who only have a similar ethnicity. As long as gender is concerned, female students with VI especially face sexual harassment due to their sex difference. Pretending to support the visually impaired female students both visually impaired and sighted mate students attempt to harass them. The region where the visual impaired students come from has also its own impact and difference on their academic performance. For example, those visually impaired student who come from Oromiya region are somewhat better than the others in their academic performance as they learn in special boarding schools where they got the chance to write and read on Braille well. Those students with VI who did not get this kind of chance, for instance those who come from Amhara region, are low academically. They do not read and write on Braille well. They are also in problem to cope with the new environment they learn and live in.</i></p>	<p><i>I personally faced no problem because of social and cultural differences. However, as a rumour I heard that because of a difference in religion some may be benefitted or not from those outside the university. For instance, those students who are followers of protestant get support, while those who are not followers do not get this chance. Of course, this is unrelated to the university, and I do not consider it as a problem.</i></p>

**Table 14 Question 3:**

*Would you please mention some possible solutions in order to overcome those challenges and problems mentioned earlier?*

SI Participant 1	SI Participant 2
<p><i>The possible solution that I suggest to minimize the problems and obstacles visually impaired student face is to enable us get educational materials in soft copies using scanners instead of giving Braille papers. To put it in a nutshell, it will be better to create a situation by purchasing embossers and other technologies and train us on how to use them. Besides, it will be good to assign a visually impaired expert who can understand our problems and support us well in addition to the one who has already been assigned in the disability centre. If possible, it will be nice if visually impaired office workers are employed and support us permanently in each department. In addition to this, it will be good to assign a psychologist who can give us guidance and counselling service. I said this because the one who is assigned in the disability centre has dual responsibilities- a lecturer and head of the centre. As a result, she does not have ample time to give us guidance and counselling.</i></p> <p><i>The other thing that the university should made is that let us get the information they post on a notice board thought alternative formats, such as Braille, audio material and e-mail. What is expected from the university to do so is providing us computer training. If they do this,</i></p>	<p><i>What I would like to say in general is that it is good to solve all the problems that we stated. If you want me to mention in detail, the university should have a sort of workable regulation for our problems and fulfil the necessary materials to us. Instead of saying there are no materials that can have a negative impact on students with VI, it is better not to admit students with VI in the university. We know those newly established universities are doing better than University A for their students with VI. For example, it is said that Hawasa University affords about 1000 birr monthly allowance per student, whereas University A, the oldest one, gives us 120 birr. The university does not treating students with VI well for the simple reason that there is no adequate budget or resource. As to me, if University A insists on taking students with VI, it should fulfil at least the necessary materials. I think this is not as such a difficult thing to do. As they accept us as members of the university community, it is unfair to supply materials for sighted students in the library while they do not fulfil the materials in Braille or soft copies for us. Similarly, they should purchase computers with JAWS software and provide us. If they are unable to establish a suitable library to us,</i></p>

<p>we may stop finding sighted friends to read the written information for us. It is important to give computer training for students with VI for one or two months after admission because we did not take IT training when we were grade 11 and 12 students. They did not allow us to get training on IT because they think that students with VI are incapable of using IT. If they do not want to create problems on the academic schedule, they can call us and give us IT training in the summer time before starting the regular programme. If this is not possible, they can provide us the budget and we can take the IT training by ourselves before the first academic year begins. Our lecturers can also assign one of our sighted classmates to help us permanently. Our classmates can be assigned to help us by reading different written materials.</p>	<p>they can, for example, support us by putting four or five computers with JAWS software around the visually impaired female students' dormitories. I said this because the university has bought computers for sighted female students and created the opportunity for them to use around their dormitories. Therefore, it is good to purchases computers with speech outputs or software and creates the opportunity for visually impaired female students to use in the night as well as in their spare time around their dormitories.</p> <p>Furthermore, it is good to let students with VI learn on the ground floor instead of the upstairs. I think that a lot of problems can be solved if lecturers as well as others are made to have the awareness and make their approach and materials suitable to students with VI. Lecturers should also assess whether what they are presenting in the class is convenient to the students with VI or not. We can also be successful if financial support is given by the university. For example, I used to get 1-3<sup>rd</sup> rank when I was in high school, but here I just passing and cannot be competent enough. The reason is that it is not because of my laziness but it is because of the fact that I study with the help of my sighted friends to read the materials when it is convenient for them. Our sighted friends read the materials to us when they finish their own study and when the examination is approaching. As this is so, we just study for the sake of studying. If sufficient budget, for instance, 1500 birr per month is assigned to us, we can employ someone to read materials to be successful. As writing a senior essay for graduation is difficult to us, I also suggest replacing the senior essay by another course or it is good to evaluate us by any other means. As the reference materials that we can use to do our research are those available to the sighted students, it is unmanageable for us to ask others read all of them. If we get reference materials in such a way that they are suitable to us, doing research may not be difficult to us. It is also good to give us the handouts on the course 'Introduction to Research' before we take it.</p>
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**Table 15 Question 4:**

*If you have any other suggestion or comment that can be useful to this study, please forward it.*

SI Participant 1	SI Participant 2
<p>Well, I have tried my best to mention all the points that I thought relevant to the study and the detailed problems and challenges which students with VI might face in University A. Thus, I hope that this study will be useful in suggesting possible solutions for the problems and challenges I stated earlier.</p>	<p>What I would like to suggest is that the findings of this study as well as the problems that we mentioned should be accessible to the higher officials of University A.</p>

I thank you for answering all questions of the interview.

## APPENDIX 7: A TRANSCRIPT OF THE INDIVIDUAL INTERVIEWS OF LECTURERS

Responses to individual interviews with lecturers (A female Amharic language lecturer and male English language lecturer) of students with VI in University A are presented as follows:

**Table 1 Question 1:**

*Do you think that you are achieving the full inclusion of students with VI in all aspects of your academic career taking into account the theoretical frameworks of the social model of disability and critical disability theory as well as the UN conventions which our country, Ethiopia, has agreed in relation to disability and special need education? If you get it relevant, you can give detailed explanation.*

Lecturer Interview (LI) Participant 1	LI Participant 2
<i>To start with, I do not know the disability-related theoretical frameworks, UN conventions and our country's rules and regulation. Under some circumstances, I get students with VI along with sighted students assigned in a class where I teach. When I get both kinds of students in my class, I just teach them together as to my preparation. Recently, as there are some students with VI who can read and write using Braille and as there are some who cannot do so, I personally allow the student to record my lecture using a tape recorder. As this is allowed by the willingness of lecturers, I allow the students with VI to learn by recording my voice. Other than this, I cannot say with confidence I have done something different for students with VI in my classroom. Sometimes I am worried whether these students can manage the lectures and assignments that I give due to their impairment. Otherwise, I did nothing to help them other than worrying myself. Although I worry about them, I do not have any idea how to help them. Therefore, I have not done anything to support them by understanding the UN conventions and theoretical principles other than teaching them together with the sighted students by allowing them to learn by recording my voice. I personally do not know what I can do for students with VI. They come together and they learn together. I do not know any other alternative other than doing this. This is a problem to me.</i>	<i>I think that I as well as my other colleagues have no information about how we should entertain students with VI in inclusive education based on the international agreements, national policies, and theoretical principles. For this reason, I do nothing different for my students with VI other than teaching them in the same way as to the sighted students. Nevertheless, as we feel humanity and we believe that students with VI should learn, we teach them together with the sighted ones. I personally believe that students with VI should be supported. As a result, there is a time when I assign one visually impaired student with two other sighted students in a group to support him / her. I am forcing them to do group assignments together because there are some sighted students who are reluctant to do with students with VI.</i>

**Table 2 Question 2:**

*If you say you have not implemented the above mentioned conventions and theoretical principles wholly, on what aspects of higher education are there problems or challenges?*

LI Participant 1	LI Participant 2
<i>So as to implement the above mentioned UN conventions and theoretical principles, lecturers should know them well. Since I don't know them, I am not teaching my students with VI thinking about the rules and frameworks. Hence, one of the problems is the failure to know and implement them. The second problem is that some students with VI do not use Braille. If they used Braille, they could write what we explained in the class. On the other hand, as we lecturers cannot read Braille, we even cannot ask our students to write and submit their assignments and examinations on Braille. If teachers get the chance to be trained on how to read Braille, we can at least create a situation</i>	<i>Since I along with my colleagues do not know anything about what is included in the conventions, rules and regulations as well as what should be done for students with VI, there is no special support that we did for them. The problem here is that we lack training on the legal and theoretical frameworks. For example, I do not get any special training. As a result, I do not know how I should teach students with VI to make them satisfied.</i>

<p>where we can work with students with VI well. The other problem is that when I allow my students to record my explanation, they switch on their recorders and fall asleep. This makes them not to follow the lesson attentively. When I ask questions in the middle of my explanation, they awake suddenly. Even so, I allow my three students with VI whom I teach folklore and a lot of students in my Amharic Language class to record and learn as they have recorders. Other than this, as I do not have the awareness about what to do to them, I just help them unknowingly. I cannot also say the necessary facilities are fulfilled to them.</p>	
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**Table 3 Question 3:**

Are there any clearly articulated policies or legislative standards in the university on which the inclusion of students with VI is based up on, for instance in relation to assigning into departments, providing special support and resources? If there are not any, what are the reasons behind?

LI Participant 1	LI Participant 2
<p>I do not have any information whether there is any legal base in the university's legislation or policy concerning the inclusion of students with VI. I have never seen. I do not think there is any special policy which orders lecturers to give special support or resources for students with VI. I said this because I am not familiar with the particular regulations about inclusive education for students with VI. If there was any, I would be ordered to do so. However, there is a little thing that is done for students with VI by lecturers' individual initiation and willingness to support the students. For example, not I but I heard that an instructor, who teaches literature course, has given the lecture notes in the form of audio for his students with VI. I also want to do this, but I have never made it practical. First of all, what am I going to record: the lecture or the reference materials? If I want to do this, where is the recorder? Is there anything adjusted for us by the university? To do this, I think a lot of thing should be fulfilled. It needs time and resource, including additional payment for us. This is a very challenging task. Even if I am intrinsically motivated to do, I do not have time and the materials with me. Even I have never been obliged to do so by the laws of the university. In general, the students with VI are assigned to me together with the sighted students and I teach them in the way that I feel appropriate.</p> <p><b>Question:</b> From the students' interview, it was possible to understand that when the students with VI asked to be assigned in some departments, for instance in music/Journalism and the like, they were not allowed to join those departments because of their visual impairment. Is there anything in the university's legislation or regulation that prohibits those students to join the departments they choose?</p> <p>I do not know whether there is such a thing in the university's regulation or not. Nevertheless, what I would like to say based on the actual situation is that students are assigned to the university by their choice, and I think that they are assigned into departments by their own interest. Introductory orientation is organized for all students by registrar office and then all faculties' representatives give a five minute orientation. After the orientation, the students choose departments orderly as to their own interest. Moreover, it is a common understanding that there are some departments which are not appropriate for students with VI. Other than those departments, there is a tendency to assign them in language and law departments. But I do not know again whether this is mentioned in the university's legislation or not. Even so, there is a situation where by a lot of</p>	<p>I and my colleagues do not know whether there are policies and regulations in University A. Although I do not know what are there in the policy, I realize that I am teaching them in the usual way and I do nothing special to them. Even though the way we teach students with VI is different from lecturers to lecturers, I allow those students who have tape recorders to record when I lecture in the class. I do not also object those who have Braille materials to write with them in my class. Indeed, some of the students with VI told me that there are some lecturers who do not allow them to record their lectures. However, I just allow them to record my lecture willingly, not because there is a regulation in the university to do so. A lot of students with VI chose my department and assigned to me. After they are assigned, we just teach them as we like. Other than this, we are not informed what we should do as to the rules and regulations of the university. Even nothing is given to us in the form of orientation from the university about what we should do for those who can use Braille and cannot use Braille. In general, I do not know if the university has polices and rules and regulations on how students with VI choose departments, and what kind of supports and resources should be provided to them. Since I am a lecturer with no orientation, I teach students with VI together with the sighted ones without any special support and educational material. Other than teaching them together with their sighted peers, I do not have any means to know what kind of special man power, material and finance are assigned to them.</p>

students with VI are assigned into our department, that is language department.	
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**Table 4 Question 4:**

*What challenges do you face to ensure the full participation and inclusion of students with VI in all higher education activities (from admission up to graduation)?*

LI Participant 1	LI Participant 2
<p>Regarding the admission of students with VI and assigning them in to departments, it is better for those in the administrative office to give answers for this question. I do not know anything about the admission and assignment of students into departments except teaching those students who are assigned in my classroom. What I have observed from practice is that there are often students with VI in my classroom. For example, there were almost 20 rather more than that number of them in my class last year. What I know is the fact that our department accepts students with VI, but I do not know whether they are assigned by their own interest or not. As to me, instead of teaching folklore course to students with VI with the present situation, it is better not to allow them to join the department. For instance, as it is challenging for them to learn mathematics and physics subjects, it is better not to assign students with VI in the department of folklore as there are a lot of things in it to study the culture that need to be seen by our own eyes. However, when I teach Amharic language course, I can read what I have written, and they can follow what I am speaking. I do this mercifully, not guided by knowledge. Thus, it is better for students with VI to join the department that should not require them to see.</p>	<p>There are challenges that students with VI face while they are learning in the university. For instance, one of the problems is that they are assigned in some specific departments. As we all know, there are some fields that are allowed and disallowed for students with VI when they choose departments. I also support not to allow them to be assigned in those fields that require them to see. We also know that they have been assigned in languages, law and history fields since past. When they are assigned and learn in these departments, they just listen what is spoken (lectured) and copy with Braille what is written. It is difficult for them to attend those subjects that require sight if they are assigned. For instance, as the number of students that join language department is decreasing, we just beg them to join our department. On the other hand, those departments that partially require sight are not willing to accept them and forbid them to join their departments. I have been teaching students with VI in this university for more than 10 years. As I also taught them at Kotebe College of Teacher Education, I have a lot of experience. From my experience, I understand that students with VI are usually assigned in language department. I, for example, taught 13 visually impaired and seven sighted students last year. Compared with the whole students in the class, they were a lot in number. In my class the ratio was almost 2 students with VI to 1 sighted student. This year, I teach oral communication, research method and writing skills courses. The number of students with VI currently is 50% of the total number of students in the class. Thus, the ratio between visually impaired and sighted students is 1:1. With this circumstance, it is challenging to me to teach students with VI. Since the courses I teach tend to focus on skills, it has become a burden for me to follow up what students with VI are doing. For example, I order students to write on a certain issue during the writing skills course. It becomes difficult for me to assess their writing skills as there are some students with VI who cannot write with Braille and their number is large to allow them write by the help of the sighted students. When I ask them whether they can write or not, they answer me angrily: 'yes, we can'. They told me angrily that they join the university because they can write and pass the entrance examinations. Of course, there are good students too. In general, from the nature of my communication skills course, as there are some students with VI who cannot write when I ask them to write, they feel that I underestimate them. They also consider that we do not do any special support to them. At the same time, they also think that it is obligatory for us to give special support to them. Nevertheless, we cannot fulfil what they ask because no training is given to us.</p>



**Table 5 Question 5:**

*In the course(s) you teach, how are the curriculum materials, such as syllabus module, textbook, handout, worksheet, lecture, assignment, assessment modes and examinations accessible to the students with VI?*

LI Participant 1	LI Participant 2
<p><i>As the university does not make accessible the curricular materials of each course before the students with VI come to our university, the implementation has become a challenge for both of us. For instance, I do not use LCD projector. Since I use white board, I make the course I teach accessible to students with VI by reading what I have written on the board and allowing them to record my lecture using a tape recorder. I also know that students with VI have problems in accessing curriculum materials as well as physical environment and facilities. As to those problems, it is also my issue. If there is a requirement to fulfil and provide those things to students with VI, it needs additional labour, time, resources and budget/money. It would have been better to admit the students with VI after these things had been ready ahead of time. The university should have thought over the issue and performed what should have been done before accepting and sending them to our department. The university should have also prepared a plan or project to fulfil what should have been so. For instance, if I am asked to teach the students with VI by changing my lecture notes into softcopies or recording them on a tape recorder, it will be a burden on me as there are no materials, place and time. From the beginning, there is not any attractive situation in the university that enables us to support students with VI. Regarding assessment, as we are using modular approach, we are not simply using mid and final examination as before. We use different continuous assessment techniques. During assessment, as there are some of them who do not write and read with Braille and we cannot also use Braille, we communicate through a mediator (another third person). I assess not the students with VI' writing, but the other third person's writing. This has its own problem as the students bring readers/ invigilators by themselves. For this reason, they might bring from senior students and we just simply ask their ID cards to check if they are students or not. Although the readers can be physics or engineering students, they may answer the questions using their common sense, especially on Literature and Folklore courses, and help the visually impaired student unnecessarily. As a result, it can have its own impact on our assessment. If we and the students with VI were made to know how to use Braille, it could be possible to fill the gap. I mean that there could be an opportunity for lecturers and students communicate without a mediator. Of course, this has also its own impact on the lecturer's time management.</i></p> <p><b>Question:</b> Students with VI on their part expressed that they brought readers by themselves since lecturers did not do so. They also mentioned that if they cannot get readers, they might miss the examination. Hence, finding readers is one of the challenging problems they face. If you say that doing the exam by the readers the students with VI themselves brought is a problem, why don't you lecturers make the students take the exam by arranging readers by your own?</p> <p><i>I cannot answer this question. What can lecturers do here?</i></p> <p><b>Question:</b> Is that not possible to invigilate students with VI together by making the examination verbal with the help of tape recorders or computers? Is that not also preferable to you if you invigilate the students using a technology which can help you change the writing into Braille and vice versa?</p> <p><i>I have never made ready the examinations orally or made the students take the examinations through a soft copy. Presenting the examinations orally or through a soft copy has also another problem.</i></p>	<p><i>In the courses that I teach, I just give the curriculum materials, such as course outline, handouts and others only in writing for both visually impaired and sighted students. Even now, there is nothing special prepared and provided to students with VI only. When I teach for the last ten years, I have given the written materials that I give for the sighted students to the students with VI. There is no one who said I have done this to them.</i></p> <p><i>The situation in relation to assessment is a headache for me. I have thought to conduct research on this problem as the situation during examination is a problem. The problem is that there are students who are called 'readers' whom the students with VI bring to read the examination. For me, these are not good readers since they come after they are invited tea by students with VI and arranged some sort of benefits. For example, the readers write the answers instead of reading the exam and letting the students with VI tell the answers. I am not happy with some of them because they support the students with VI by doing the answers collaborating with them instead of being good readers.</i></p> <p><i>I have already raised this. The university did not allocate budget for exam readers or invigilators. As a result, the students with VI were made to join our department without any budget allocated to us. This indicates that they should be accommodated with what is available in the department. Therefore, we do what we can do willingly, but we cannot be made ready invigilators. In order to make students with VI do the tests in Braille, we did not get training on how to use Braille. Even we can't examine them orally because there are more than ten students with VI in my class and it requires much time to read the questions. To give the exam orally using technology is impractical because no material is ready in the university. We can't also see other possibilities because no orientation was given to us. Of course, when I taught Oral Literature course, I used to evaluate my students by making them speak orally. As a result of this, my students with VI were delighted. Nevertheless, as there are no materials and readiness, we are compelled to give written examinations to be read by readers.</i></p> <p><b>Question:</b> As mentioned by students with VI, while lecturers invigilate the sighted students in the classroom, students with VI are invigilated on corridors. As a result, they state that they are disturbed by the noise of the by passers which make them spend their time unwisely. Even they mention that lecturers do not support them by allowing them to do for some more additional time. How do you entertain the stated problems during your examination?</p> <p><i>It is true that visually impaired students are invigilated on the corridors. I also made them take examinations in the same time allotted for sighted students. But now, I have tried to find a free room by myself and made all students with VI invigilated there. I did this because when they are invigilated on the corridors, they are disturbed by passers-by. However, because of shortage of awareness on time management, I just allow the students with VI the same time with the sighted students. No one has told us what to do for students with VI as far as time is concerned. Due to this, no one again informed us whether there was a problem on time allotment or not. I know that they are in difficulty to write senior essay. As I have taught them for 10 years, I remember that one time we asked them to replace the senior essay by another course to reduce their problem, but there were some who agreed and disagreed with the idea.</i></p>

*You cannot control if they exchange answers through message. It may not be a problem to use if there is a technology that can change writings on Braille into hand-written document and vice versa.*

**Question:** *One of the problems students with VI raised concerning getting readers/ invigilators during examinations is that the money allowed to pay for readers is inadequate. It is 15 birr per hour they pay for readers. Besides, they said that the readers on their side ask for up to 50 birr per hour and the students with VI may pay that amount of money if they have or miss the examination. How can students with VI solve this problem?*

*That is right because it is difficult to get invigilators/readers for 15 birr per hour. This can be solved by the university, not by the lecturer. If assigning invigilators for students with VI is the responsibility of the lecturers, we might be obliged to be unwilling to teach students with VI. To improve this situation is the duty of the administration.*

**Question:** *As mentioned by students with VI, while lecturers invigilate the sighted students in the classroom, students with VI are invigilated on corridors. As a result, they state that they are disturbed by the noise of the by passers which make them spend their time unwisely. Even they mention that lecturers do not support them by allowing them to do for some more additional time. How do you entertain the stated problems during your examination?*

*As mentioned by the students, there is a situation where by students with VI take examinations on corridors. Although this is a problem, what can be done if there are no free rooms around there? As far as time allotment is concerned, I just allow students with VI to use the same time that I allot for the sighted ones. If additional time is allowed for students with VI, the university should pay overtime for lecturers who invigilate for some more additional time. Regarding examination, since I tell the information in the classroom students with VI can listen. When I often transfer information through writing, they get it from their sighted classmates. To make the information accessible to them in a special way, it needs to arrange additional time, budget, and materials. I think that doing this is the responsibility of the administration or the so called disability centre. Especially, they should give due attention for changing lectures or handouts into soft copies. What my duty as a lecturer is to make the lessons that I present in the classroom accessible to students with VI through oral explanation. I do not know this much about the technology that can support students with VI. I heard that there are some lecturers who give their lectures in the form of soft copies to their students. I also think to do the same thing for them, but I fail to make it practical because no incentive is given from the university. Why do I worry if the university does not want to give us any over load/overtime payment? Sometimes you lose hope as nothing is done for you by the university. In general I make students with VI record my lecture (what I teach) using a recorder. I also give them course outline, handouts, and the like in the form of hard copy just like the sighted students. They also give me the assignment through writing (hard copy). I think that it can be possible if bring the assignment recording on a tape recorder but I have never tried that. Indeed, this might require me to use more time than correcting writings. Although it is true to invigilate them on the corridors, some teachers have started invigilating them in classrooms. This again is difficult by itself in my case as there are, for instance, 17 students with VI in my class. If I want to invigilate all of them in one class, they might hear each others` answers.*

*Almost half of them argued to write senior essay claiming that they are not less than the sighted students to do so. Even they accused us through their committee. At the beginning, we decided to replace the senior essay by another course at the department level, but we changed our mind later because they accused us. For this reason, as it was a burden for us to advise them while they wrote their senior essays, we created a situation by assigning only one visually impaired student for each lecturer. That means, as students with VI cannot see, they face a special problem different from the sighted ones when they write their senior essays by referring printed materials. Hence, as it is difficult for advisors to solve the students' problems and advise them, we distribute each visually impaired student for each advisor. It is to reduce the burden that more than one visually impaired student is not assigned for one advisor.*

**Table 6 Question 6:**

*To make students with VI more benefitted from inclusive education that you are practicing, on what aspects do you and others who teach students with VI need special support?*

LI Participant 1	LI Participant 2
<p><i>To make students with VI highly benefitted from inclusive education, lecturers who teach them should get first hand training at the faculty or department level. Lecturers should be trained on issues such as how they teach and what do they use to teach the students with VI. For example, I just teach them in the way I feel right, and I do not use any special technique. I also do not give any special help because support should not be guided by one's willingness, but by knowledge. The second point is that there should be a kind of system and training or orientation should be given to the lecturers on how to make accessible lectures, assignments, assessments, etc. to the students with VI. Thirdly, there should someone who is responsible to make books, teaching aids, etc ready in soft copies or record them for the students with VI. The other point is that there should be rules and regulations as well as orientation to the university staff and the students with VI themselves on what they should do or their responsibilities. I include the students to be part of the orientation because there are some students with VI who argue to get a special advantage to themselves. I think it is unfair for them to say they should get a special advantage for being visually impaired. Instead of trying their best to work hard, there are some who want to get special advantages and who complain their rights are abused when they do not get.</i></p>	<p><i>Sometimes the classroom where students with VI learn is situated in the last upstairs. To help them manage this difficulty, I think that someone who guides them the way to there should be assigned permanently. From the students with VI' side, when some humane people want to help them, they become angry. Therefore, it is necessary to assign classrooms preferably in the ground floor which are convenient for students with VI by discussing the issue at the faculty or university level. It is also good to gather university lecturers and discuss with them what they should do for students with VI. This is uncommon in the university. As to me, when I teach in the classroom, I made students with VI record what I read orally the writings on the board. I do not use materials like LCD which require sight. However, it is crucial to confirm whether students with VI are following the speaker or not by looking at their face in Oral Communication course. When I said that this is difficult for students with VI, I faced objection from them. At this time, they said: 'although we cannot see, we can identify whether the listeners are following us or not by listening.' What I understood from this was my ignorance. After this, I have learned a lesson.</i></p> <p><i>As we are using modular curriculum, we implement a lot of continuous assessments. This requires students with VI to use readers a lot which again makes them increase the expenses they pay for readers. To solve this problem, it is not me, but the university should consider their problem and allocate sufficient budget. I know this problem as I participated in modular syllabus preparation. When the final examination is taken out of 40%, the rest is taken out of 60% using continuous assessment allocating 10% for each mode. Besides, whenever I intend to give quiz, I tell them to bring readers. Sometimes they may not get the information about examinations which I posted on the notice board. Even if they get the information, they might fail to get readers. Lecturers may be unwilling and not ready to text them messages through mobile or other means. It clearly known that most of the lecturers let students with VI know about continuous assessment through a notice board and if their friends do not tell them, they may not get the information. This is a problem that really exists in the university.</i></p>

**Table 7 Question 7:**

*In your opinion, what special problems or challenges do students with VI face while they are learning in University A?*

LI Participant 1	LI Participant 2
<p><i>As to me, students with VI face special/huge problem when they are asked to write their senior essay. It is good for students with VI to write the senior essay. However, as they are expected to refer different books and reference materials which are inaccessible to them, it makes writing senior essay challenging to them. If they want to use the books by asking others read to them, this is also challenging by itself. The senior essay also requires them to collect information and analyze it. To your surprise, I said they should not be assigned in the department of folklore for this reason. It is better to let them work by replace the senior essay by another course. I also believe that it is not right to oblige students with VI to write the senior essay using their maximum effort without creating the opportunity to hire personal readers to them. As to their sex, female students with VI face more difficulties than their male counter parts. Even students with VI have problems in identifying what should be done and not be done for them.</i></p>	<p><i>The special problems students with VI faced in the university are those I mentioned earlier. To put it in a nutshell, the university should do what should be done for students with VI considering that they are learning in inclusive education and realizing that there are problems in relation to budget, place, material, and time management. As far as attitude is concerned, there are some lecturers who are unwilling to be assigned in classrooms where students with VI are assigned. I personally do not have this problem. As the number of students assigned to us is decreasing from time to time, we do not say students with VI should not be assigned in our department.</i></p>

**Table 8 Question 8:**

*In your view, so as to make inclusive education effective to students with VI, on which challenges/problems the university should seek for immediate solutions? Why do you say so?*

LI Participant 1	LI Participant 2
<p><i>I think, the first problem that the university should solve is the absence of orientation and training programs to the university staff regarding disability issues. The second one is the inaccessibility of teaching materials, examinations and physical environment. Inability to address the issues of access by means of adaptive facilities and technology should be the focus of University A. In addition, there should be training for university staffs and students with VI on how to use the facilities and technology effectively. For example, instead of assigning a third person to invigilate students with VI, it is good to give training for students with VI and their lecturers on how to use Braille so as to perform it by themselves. To be brief, students with VI in University A have a lot of challenges. As they are surrounded by plenty of challenges, there should be an assistant who gives them constant support. Some of them have economic problems. Everything also costs them more than the sighted student. The other thing is that there is a problem of accessing dormitory, classrooms, etc easily. There should also be someone who can help them in their mobility as there are problems they might face while they are walking on the road and going up and down stairs.</i></p>	<p><i>What the university should give immediate solution is that first of all, all the university community including lecturers, and administrative workers should be made aware of about inclusive education and how to handle students with VI. The students themselves should be made to discuss and know what they should do when they join the university, and the kind of support they will get. Moreover, they should discuss with the lecturers on what they should do after they join the university and what the lecturers can support them. In this manner, creating awareness should be the first measure that should be taken. After the awareness and training, the curriculum materials and facilities should be made accessible and make adjustments little by little for students with VI. The critical problem in ensuring the full participation of students with VI in all aspects of higher education is the failure to provide suitable teaching materials to them. Although the disability centre is established for this purpose, it does not perform as such a good job. For instance, a notice that is sent from the centre to our department read as: 'please, send us the teaching material that you use in a soft copy if you have'. I think asking like this means to me that preparing the teaching material in a soft copy for students with VI is a humanity activity. If we lecturers perform this kind of support, we should be given incentives. For example, one female lecturer from our department read a book and made it ready with a softcopy and then gave it to the students with VI. For this support, what she got was a simple thank you letter which does not encourage others to do so. The disability centre should have prepared a budget to make ready materials in softcopies or Braille for students with VI instead of begging us to do so. In addition to the inaccessibility of teaching materials in alternative formats, everybody knows that students with VI face challenges in relation to the methods and mode of assessments. The physical condition in our campus is also difficult. For example, students with VI have difficulties in using the buildings and roads. We sometimes see them bumping with things. I think that it will be</i></p>

	good if there are some who guide them and adjust the stairs for them. Some of them become angry when you ask them to help them.
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**Table 9 Question 9:**

*In your opinion, what are the solutions that can solve or minimize the challenges that visually impaired experience while they are learning and living in University A?*

LI Participant 1	LI Participant 2
<p>I have tried to mention the solutions when I mentioned the challenges. Indeed, if we say that students with VI should learn in inclusive education of University A, there should be a clear thing in the policy that can facilitate situations. It should be good to think over and work on the means that students with VI can learn their tertiary education and graduate successfully so as to support themselves and serve their country. The university and government should decide clearly what should be done for them as citizens, not by the willingness of individuals. For instance, there should be a well thought over rules and regulations on how we can support students with VI, how their examinations are treated and how much extra time should be added during examinations. The university should include the aforementioned issues and make them clear to the performers. The incentive that will be given to lecturers when they support and evaluate students with VI in their extra time should be clearly stated in a regulation and implemented accordingly. It is possible to bring a change if this idea is implemented skilfully, for instance in the form of overload. In addition, the university's management as well as academic staff should be oriented about everything that is put under the international agreements, national rules and regulations, and theoretical principles for students with VI. Based on this, it is possible to gradually overcome the challenges that students with VI face in the university. I heard that there is a centre in the university which gives support for students with VI. However, this centre has brought no changes for the students. Thus, it is good to restructure it so as to make it provide genuine service for students with VI. To solve the problems raised by me as well as the students, a project should be designed and implemented by the centre. Especially, the centre should be made empowered and accountable to make students with VI get the maximum service to be successful both academically and socially. For example, it is possible to give training for staffs and students on how to use Braille so as to let them communicate through that means. After that, the time may come when we can use the technology and show progress.</p>	<p>It is their right for students with VI to learn in the university. Lecturers are also obliged to teach them. For this reason, we lecturers should be oriented and get training on what kind of rights do students with VI have? and what things we should do for them by the university. It is also good to conduct timely discussion between the management and lecturers. The tendency is simply sending the students with VI to us. This kind of system is not good, and it should be improved. Until we reach at a consensus on these matters, I think that the training and orientation should continue. If lecturers also get training on how to use Braille, they can at least get the opportunity to correct their students writing by their own. The other thing is that some of students with VI misbehave in the university as they come from boarding special schools. If they get guidance and counselling from psychologist, it helps those, especially who show deviant behaviour, to improve their behaviour. It is also relevant to run a participatory discussion among lecturers and administrative workers to make those who have negative attitudes towards students with VI change their attitudes and support them. It is unfair to urge the lecturers to do this and that. This can be applicable for those who do humanly. Hence, the university should do something considering the students with VI. I heard that if we present the written notices in the form of softcopies on a computer which is loaded with jaws software, they can read them. This kind of adjustment should of course be facilitated by the university, not by lecturers or at the department level. What is expected from us is informing the issue to the university and we will do it. I think we have never thought of fulfilling these things by us or at the department level. Perhaps, the university can use the disability centre and fulfil the necessary things and let us know how to manage them. The university can also use special needs teachers and make students with VI get whatever support they should get. It is better to let us do what we should do, and let the students with VI know their rights, support them like others, allocate them enough budget, and encourage them to do what they can do by their own. It is not by begging us, but we should be made to perform what we should do by letting us know how much we will be paid openly. If additional payment is arranged for us, we lecturers are ready to carry out what we should do. Even there was a time when we asked to learn how to write and read on Braille. We are ready to do if we get training on how to use teaching materials in Braille and softcopies as well as if extra payment is arranged for the extra time that we will spend. For me, I like reading Braille, and I used to ask a visual impaired student to read something written on Braille by another visually impaired student. We are also willing to get training on some other supportive technologies. If we get anybody to inform us about the use of those technologies, we can serve students with VI well.</p>

**Table 10 Question 10:**

*Would you please mention any additional suggestions that you think relevant to this study?*

<b>LI Participant 1</b>	<b>LI Participant 2</b>
<i>As it is difficult to advise students with VI to write the senior essay, it is a problem to get willing advisors for them. Hence, it is good to try to substitute another course for the senior essay. If possible, it is preferable to have assistants for lecturers during correcting term papers and assignments to ease the burden of the lecturers.</i>	<i>I do not have any other idea other than what I have mentioned.</i>

I am grateful to you for cooperating me with the interview.

## APPENDIX 8: A TRANSCRIPT OF THE INDIVIDUAL INTERVIEWS OF SENIOR MANAGERS

Responses to individual interviews with Senior Managers (department head, faculty dean and dean of students) at University A are presented as follows:

**Table 1 Question 1:**

*To what extent the international agreements that Ethiopia signed and accepted (e.g., UN Standard Rules on the Equalization of Opportunities for Persons with Disabilities, Salamanca Frameworks for Action) as well as the laws and regulations issued at the national level, for instance, the New Education and Training Policy, the Special Needs Education Programme Strategy and the Higher Education Proclamation 650/2001 which comprise articles on rights of persons with visual impairment are incorporated in the institutional policy or senate legislation of University A?*

Senior Manager (SM) Participant 1	SM Participant 2	SM Participant 3
<i>I do not know whether the above mentioned international agreements and the national rules and regulations are incorporated in the transformational policy and senate legislation of University A. What I know is the fact that there is something mentioned not directly for students with VI but for those who have physical impairment in the university's senate legislation. There are some articles though it is a bit difficult for me to mention. It is also difficult to say that all these articles are known by those responsible bodies at each level. It has not been even tried to let lecturers be acquainted with the articles by the university.</i>	<i>Of course, University A has nothing different from the international as well as the national laws. Especially, regarding people with disability, it is available not only at the policy level but also it has been tried to support practically and encourage people with disability. That is why a disability centre which is led by a director is established in the university. Therefore, I believe that a system that benefits students with disability should be incorporated in the university policy.</i>	<i>This is a difficult question. It is the disability centre that knows in detail whether or not the aforementioned international agreements and national laws are included in the university legislation. As it is not directly related to my duty, I do not have anything to say about it. However, I pressure that they might be included.</i>

**Table 2 Question 2:**

*Do you think that University A has a clear policy or senate legislation that ensures the rights and equal access to everything for students with VI? If no, why do you think so?*

SM Participant 1	SM Participant 2	SM Participant 3
<i>There are not any special rules and regulations that are issued for students with VI at the department, faculty, and university level. There is something in the senate legislation that demands us to support students with disabilities. However, it has not been tried to let the academic staff and responsible ones know clearly about it. Lecturers do not know what is there in the legislation unless they read about it. Lecturers are not made to know what they should do for students with VI through a formal communication. Although it is difficult to say there is a clear policy and legislation that confirms the rights of students with VI, we just provide them the resources that we give for the sighted students in our department. There is not any rule in our department that requires us to provide resources in a special case for students with VI. I also heard</i>	<i>Although there might be something at the policy level, I do not remember anything and I cannot even tell you the article that explains the rights of students with VI. What I want to say is that it is difficult to say that there is a policy or legislation in the university that ensures the rights and equal beneficiaries of students with VI. However, there is something that is done for students with VI in the university.</i>	<i>I am not sure about it. I think that there should be laws and regulations on the rights of students with disabilities in the university legislation.</i>

through rumour that students with VI get allowance/pocket money, but this is not known at the department level. I think this is known and decided by the students' dean.

**Table 3 Question 3:**

*Is there any problem or challenge that is created by the university's legislation while trying to serve students with VI in inclusive education? If your answer is yes, what is the problem or challenge?*

SM Participant 1	SM Participant 2	SM Participant 3
<p>I think that the University A's legislation or policy has not created any problem on teaching students with VI together with the sighted ones, especially in our department. Since we teach both students with VI and the sighted ones together, the existing legislation has never been a problem. Even though I do not know about the details whether there is anything to treat visually impaired student equally with others and support them in a special way, I have never seen anything that prevents students from helping one another in our department. Even when we give group work, we assign the students with VI with sighted ones to support them.</p>	<p>I could have said the university's legislation has created a problem on inclusive education of students with VI if I had known the extent of the situation in the university policy or legislation. To say which article in the legislation has created a problem, it would be better if I came referring the legislation ahead. To be honest, if you had told me earlier, I would have made myself ready and told you something by citing the articles. Thus, regarding the issue, there are people who are in charge of it and they can tell you the details.</p>	<p>The legislation has a general guideline. Especially, as there is no a special rule for students with VI, there is a trend to treat them with the rules and regulations issued for all students in general. To cite as an example, when students join the university, what they should do is choosing departments orderly and submit the form to the students' registrar office for placing them into departments. In relation to this, the problem that might exist is students with VI do not reveal the fact that they cannot see in the form they fill in. Even if they indicate, they are assigned into departments based on their results by competing with other students.</p> <p>Question: During my interview with the students with VI, they mentioned that as they do not take mathematics in their general secondary school and preparatory school leaving examination, their result is taken out of 400 while the sighted students' result is taken out of 500. The problem in this regard is that the university compared our row score with the result of our sighted counterparts without considering a score exemption on mathematics. Since the results are compared together without converting our result from 400 to 500, we are not benefitted from the competition when we choose departments. They said the registrar just calculates the row mark as it is, and we do not get the fields that we choose to join. Is there any rule that prevents to entertain the question of students with VI?</p> <p>Up to now, there is not anything sent from Ministry of Education to entertain students with VI in a special way when placing them into departments. They are assigned into departments competing with the sighted students equally. What we see is the fact that they have equal results with the sighted ones. As there is not any rule sent from the Ministry of Education which shows that their package is less than that of their sighted counterparts, they are not treated in a special way. I do not have any information that shows something special should be done to the students with VI.</p>



**Table 4 Question 4:**

*Do you think that the current organizational structure of University A has become a problem in making students with VI fully included in all higher education activities? For instance, is there any problem that is created because of the absence of an expert on visual impairment or special needs education within different administrative structures? What is the magnitude of the problem?*

SM Participant 1	SM Participant 2	SM Participant 3
<p><i>I do not know the impact of the university organizational structure on the full inclusion of students with VI. What I know in my department is that students with VI are equally treated like others. Perhaps, unless it is different from lecturers to lecturers because of their willingness, students with VI are treated in the same way as to the sighted ones. All the administrative problems that face the sighted students are the problems of students with VI. Probably, if students with VI have no helpers, the situations around dormitories and roads can be challenging for them. They might also face a difficulty to find the classrooms easily and walk there if their classrooms are located upstairs. Especially, if they want to use our library, they may face a problem if they do not have helpers to read the materials.</i></p> <p><i>Regarding the problems they reflected, it is better to ask the concerned ones. One day, they asked me to provide them paper to write on Braille. I told them that the disability centre can provide the papers to the students. This is what I did by myself as a lecturer and department head. Besides, when we also post notices on a board, we do not let them know about them through Braille or orally. The examination schedule is also announced on a notice board. Since their classmates inform them, they get the information. There is not any regulation that made us use other possibilities to help students with VI.</i></p>	<p><i>I think there are experts who can support students with VI in the disability centre and special needs department. The disability centre which is organized by the university has its own experts that can support students with VI when they face problems.</i></p> <p><i>Maybe, it is better for those in the centre to answer this question. As the centre is parallel and not accountable to our college, I cannot say whether they are giving adequate support or not. However, when I observe from the existing situation, I cannot say a significant job is done in the center. Thus, to fill the gap in the organization of the centre by making some improvements is paramount. Making improvements is not our duty, but it is the concern of those in the higher level or it is the authority of students' dean.</i></p>	<p><i>As to me, I do not expect that the structure of the university's administration creates any problem on the students with VI. They are just treated like the other students by the office of the students' dean. There is also a disability centre that is established in a special way which is led by a director to follow up students with disabilities.</i></p> <p><i>Question: In the interview with students with VI, the respondents also assured that the disability centre which is led by a director is established for them. However, they said that they are not getting the appropriate support from the director as she is very busy with other administrative duties and working with no helper. Similarly, the interviewed lecturers revealed that the centre is not giving services to them as well as to their students. From these angles, don't you say the organization of the administration has a problem? As there is a demand from the students with VI and their lecturers to have experts with a knowledge about the management of students with VI in the centre as well as at the department level, what comments do you have in relation to the organizational arrangements of the university?</i></p> <p><i>Very good, to assign an expert who can support students with VI at the department level or in the other service provider offices, department and faculties should allocate budget. As far as my knowledge is concerned, as there is an expert working with the director in the disability centre, students with VI are provided with Braille papers and other materials from the centre. Besides, it would be good for the students to get support from the departments and faculties. If there are a lot of students with VI and others with different impairments in the university, it might be challenging to say the centre should serve only the students with VI. If the departments allocate budget and ask for experts, the university will take the issue into account. It would be good to assign experts who could support the students in each department.</i></p>

**Table 5 Question 5:**

*Are there any special problems or challenges that you face in your attempt to make students with VI be fully included in all higher education activities?*

SM Participant 1	SM Participant 2	SM Participant 3
<p>Scarcity of resources is one of the problems that I face while trying to make students with VI fully included in all activities in higher education. For instance, when lecturers in my department give handouts, they just give the written materials. In my opinion, the handouts should have been prepared using Braille and distributed to students with VI. As there is no Braille paper in our department, lecturers cannot make their handouts accessible to the students with VI on Braille. I understand from one visually impaired student the fact that there is a computer technology which can read the handouts prepared in softcopies for the sake of students with VI. What I have been thinking in my mind is that asking the concerned body to purchase a technology that can change writings into oral as well as a machine that can change information from Braille to writings and vice versa. I was unsuccessful, although I asked the management to purchase the technologies and benefit the students with VI in our department. The other problem is that we did not get a training that enables us to use the machines and technologies. The university as well as the disability centre or the department of special needs education didn't try to let us have the technical knowledge of using those technologies. Moreover, as there is no one that can help us to get technical knowledge about the assistive technologies and no supporter in our department who can prepare accessible teaching materials, we cannot support students with VI. Even in the disability centre, as there is no expert whom we can consult, it has become a challenge for us. There is no one who can give us technical training. Even we asked the concerned bodies in 2012 to give us training on how to write on Braille and read from Braille but in vain. At least if we can read and write on Braille, we can read what they have written on Braille. Although lecturers want to get such kind of training, it cannot be implemented as it needs budget and trainers. The other problem is that we have a lot of income generating activities other than our regular work so that we face a shortage of time to attend capacity building programs. For instance, we have tried to give awareness raising training for our lecturers in collaboration with special needs department and disability centre. However, our effort was not fulfilled because of shortage of time and budget.</p>	<p>As to me, I do not have any problem as I treat students with VI in the same way as the others and I do not do anything different for them.</p>	<p>For me, what is difficult to treat is not the students with VI, but students with hearing impairment. It needs to know sign language in order to treat students with hearing impairment. I did not face any problem to treat students with VI just like the other students.</p>

**Table 6 Question 6:**

*In your view, what are the major problems or challenges that students with VI and their lecturers face while they are implementing an inclusive education in University A?*

SM Participant 1	SM Participant 2	SM Participant 3
<p>One of the major problems that face the university lecturers while implementing inclusive education is lack of knowledge and skills on how to teach students with VI effectively. There are some students with VI who kept silent in the class. Of course, there are some students with VI who are outstanding. Some of them on the contrary, use their visual impairments as an excuse. What I understand as a department head and as a lecturer is that there are some students who consider their academic failure because of their visual impairments. The other challenging situation is that students with VI rarely speak their real problems to their lecturers. I do not know the reason why they are reluctant to speak their problems, but what I speculate is that they might think their requests may not be accepted by lecturers. May be the students with VI in Amharic Language Department may also think that they know the subjects since they can speak the language. As a result, they do not tell the problems they face in learning to their lecturers or the department head.</p>	<p>I think that you have talked about the problem of department heads and lecturers of students with VI. It is from them that you can get tangible responses. However, as to me, one of the problems is scarcity of resources to give handouts for students with VI. The main problem is that there is no ear marked budget for students with VI at college or department level and there is also shortage of budget. For instance, the course outline that is given to any students is given to them. Other than that, there may not be any other special support for students with VI. Although they can record or take down notes on their Braille, they couldn't get material or financial support from their department. They also need someone to read the written materials given to them. Similarly, there is no doubt that those who read the material to them ask for payment per hour. Whatever it is, the problem is financial one. For instance, if we pay for those who read the educational materials to them, the students with VI again need someone to read exams for them. Hence we do not have budget to pay for that. Secondly, there is a conflict between the students and their lecturers because of the condition of the person who read the exam. I mean there is a rumour that students with VI choose their own exam readers. For example, if a second year Amharic language department student brings a fourth year Amharic major student to read during examination, this upsets lecturers because there might be dishonesty. The problem is that the readers write what they think the answer is, not what students with VI tell them to do so. Once upon a time, there was a grade which all students with VI scored the highest. When the lecturer was asked how that happened, he responded that it was the readers who answered the questions. Taking this idea, the lecturer prepared a new scale to give grade for visually impaired student only and he transferred their new grades. Because of this, the lecturer was accused by the students and fired from the university. You see there may be this kind of problem. At some point, we proposed to students' dean and academic vice president the idea that exam readers who are junior to the examinees should be assigned by the university. Concerning this idea, as students with VI said that they were not ready for this kind of practice, it was not put into effect. If the students are willing, I think that it might be good to assign exam readers randomly by the university.</p>	<p>Students with VI have not submitted any serious problem to me except telling me about the provision of computers. One of the problems students with VI raise is shortage of books in the library. They said that lecturers do not make available books and handouts in softcopies. Of course, there are some volunteer lecturers who reserve in softcopies. However, I doubt that how far the e-resources they reserve are directly related to what students with VI are learning. There might be a problem in relation to this.</p> <p>Question: As it is mentioned in the students' as well as the lecturers' interview responses, the lecturers who put their course materials in softcopies in the library are no more than three. Even they did it willingly, not as to the regulation of the university which is done by allocating budget for it. They also stated that it is the responsibility of higher officials and dean of student affairs to create a system of implementation and assigning budget. Regarding this, how do you see the challenge?</p> <p>If it is not to externalize the matter to others, there is no refusal to assign budget. If a department asks for budget allocation to prepare and reserve materials in softcopies for students with VI. Departments present this as a problem but they do not ask for budget allocation. Faculties are not contributing their share to respond to students with VI' questions. That means they do not prepare and ask budget to solve students with VI' request.</p>

**Question 7:**

When asked to specify the main challenges they face, the selected students with VI presented the following issues to be addressed by University A. These are:

**Table 7 Question 7.1:**

Students with VI want the university to call them ahead of the regular registration time and get mobility orientation and training on locating all areas that give services to them. Regarding this, what has been done in the university?

SM Participant 1	SM Participant 2	SM Participant 3
I do not know whether or not they get mobility orientation and training at university level. When students with VI come to the university, the students dean should accept them and provide them mobility orientation and training about the different places. When they are assigned into departments, they are notified the classrooms through a notice. Although we don't orient them, it is not a problem as the sighted students show them.	I do not know whether or not students with VI come early to the university and get mobility training and orientation. I do not know if they should get it as well. What I know is that mobility training and orientation is not given to them by the university. I think that by principle students with VI should join the university early and be accustomed to the environment of the university. I think that creating this kind of opportunity should be the concern of higher officials in the university.	That is a very good question. It is the disability centre's director herself who presents the orientation of different places in the university and arranges training for students with VI when they come to the university at the beginning of the academic year. I think that she carries out the training by coordinating the experts under her and assigning other trainers with payments. Probably, unless students with VI are absent, I cannot say training is not conducted. I think that if there are students who missed the training, they might be given training on mobility for at least two days.

**Table 8 Question 7.2:**

Students with VI want to join departments by their own choice. What is your judgment towards this? Is there a clear regulation which is practical to assign or not to assign students with VI in some fields of study?

SM Participant 1	SM Participant 2	SM Participant 3
There is no departmental involvement in the assignment of students into departments. It is the colleges or deans that assign students with VI into different fields or departments. Other than using their academic results, they never prepared any special criteria for the selection of students. We never participate in deciding where the students with VI should be assigned or not. I do not know whether they have a clear regulation or not, but there is a tradition to assign students with VI in some departments where they are believed capable of and vice versa.	Actually, students with VI are assigned into colleges or faculties by the Ministry of Education before they came to the university. Based on this, the list of students assigned into Social Science College is sent by the Ministry of Education. This is done as to our intake capacity and taking the students' result into account. As far as I know, assigning students into departments is done by the office of the registrar based on their results. We just accept what is assigned to us. When the students are assigned into departments, we are not made to have the information. What we are asked is the intake capacity of each department. For example, 200 and above students may choose social work department by their first choice while its intake capacity is 80. After that, the first 80 students who have the highest result are assigned in social work department and the remaining students join other departments by their second and above choice. When we look at the choice of departments by students with VI, they are not assigned as they want or by their own choice. This is done not because they have visual impairment but due to the nature of fields and their results. As a result, students with VI are not allowed to join some departments which have courses containing	What makes them not to be assigned as to their choice is that they do not have the required results and capability for the field of study. It is not only for students with VI but also for the others that everybody is assigned into the department he/she chooses based on the results. In fact, it is very few students with VI who are assigned into departments by their second and third choice this year. There are some students with VI who came to us and complained that they are not assigned by their choice. It is difficult to manage this while there is no clear regulation to assign them into departments based on their first choice.  Students with VI could not be allowed to join music department because there might be some special skills required to join this field. For instance, students may not be assigned in music department simply they choose the department. The department may want candidates who have the experience and select the best performers based on the exam prepared to accept them. This year, for example, 120 students chose music department, and the department accepted 30 or 40 of them who had the talent based on the exam administered. If the department accepts all those who chose to join the department, they may fail in the exam during study. Therefore, they choose those who have the ability and talent from the beginning. Because of this kind of condition, there is a problem to assign students with VI

	<p>numbers as their visual impairment hinders them from following up the calculations. For example, students with VI are not allowed to join technology fields because of the mathematical courses and they cannot go up and down stairs easily. The other departments may also prevent them from joining since the students cannot see the calculations and diagrams which the lecturers write and explain on the blackboard. If they do not allow students with VI to join their departments because of the above reasons, I think that it is realistically right. I do not know whether there is a regulation or principle that states students with VI should be assigned by their choice or not. Of the departments in our college, most of students with VI often choose to join Amharic language department and they are assigned there. Some of them choose English language department and they are assigned as to their choice. There is a challenge if they want to join Journalism and linguistics departments. As the criteria is students' result, if the sighted students have a better result than students with VI, the latter may not be assigned into linguistics and Journalism departments. It is not because every student chooses a department, what matters is the intake capacity of the department. Based on this, they may not be assigned into linguistic department. Here, as most of the students with VI' choice is Amharic language department they are assigned there. Unfortunately, what we say is not considered in the choice of the departments. They are assigned to us by the office of the registrar and the registrar assigned them based on their results in comparison with others. There is such kind of practice where we cannot consider the question of students with VI to be assigned in the department of linguistics.</p>	<p>into music department. I have not heard about those students who have a problem to be assigned in the department of Journalism. I may not see it as a problem to refuse students with VI to join Journalism department even if they choose it because the field requires them to see and report about something.</p>
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**Table 9 Question 7.3:**

*Students with VI have the feeling that all kinds of written notices should be accessible in suitable ways for them. To what extent this situation is accomplished in your department/office?*

SM Participant 1	SM Participant 2	SM Participant 3
<i>I have said it earlier. We have a problem in this regard. Lecturers in each department do not try to make notices accessible to students with VI through Braille or recorded material except letting them know in writing or posting on a notice board. We don't use such kind of technologies because sending message to the students with VI demand affording money. As the university does not afford money or mobile card for lecturers or the department heads for such purposes, it cannot be practical. Mobile card is given for those up to the level of dean. We asked the university to afford us mobile card, but there is no response till now.</i>	<i>In a general sense, we are trying to convey information to all students. There is not any kind of changes or improvements that are made to make information accessible to students with VI only. I think it will be good if we try to send the messages posted on a notice board to students with VI through text in a mobile phone or e-mail. Especially, it might not be complicated to send examination-related information through e-mail to students with VI. Of course, as texting the message may incur expenses, it might not be accepted by lecturers.</i>	<i>In our case, we make accessible the written notices that we post to students with VI in person if they asked to do so. I expect that the notice that we post will focus on all students. Students with VI can get the information from their sighted class mates/friends. I do not know the details in each department. I do not think that each department provides information to students with VI through posting notices only. Especially, if it is about examination, the departments or lecturers should communicate them verbally.</i>

**Table 10 Question 7.4:**

*Students with VI want to get a better support by accessing appropriate resources (human power, supplementary materials and technologies, additional finance and time allotment) in the university. In relation to this need, how do you see the existing situation in University A?*

SM Participant 1	SM Participant 2	SM Participant 3
<p><i>In general, the lecturers do not have special knowledge to properly treat students with VI. It is unquestionable to have efficient human power/ resource to provide the necessary support for students with VI. Based on this, I organized a half day workshop in 2012 G.C on how to support and treat students with VI. At that time I called upon both students with VI and their lecturers in the department to attend the workshop. However, of the sixty students with VI, only six of them attended the meeting, and of the nine lecturers who were teaching them, six of them attended the meeting. After that no other training was organized as there is less interest to do so.</i></p> <p><i>Question: In addition to the lecturers, other professionals and peers can support students with VI. To this effect, what are you doing in your department?</i></p> <p><i>In our department, there is not a permanent peer tutoring system which is established to support students with VI. Nevertheless, I know that they get support by their own from their sighted classmates. Of course, now it has become a challenge for students with VI to get peer tutor as peer tutoring becomes a means of income for sighted</i></p>	<p><i>As the assignment of man power is not directly my duty, what is better is to ask those higher officials to forward their comments. In relation to this, a further effort should be made so as to let students with VI get a better support. It might be because of scarcity of man power and budget, the disability centre is not seen to support the students as well as the academic staffs. I do not know how many people are there in the disability centre other than the director. Most likely, I think that one of the barriers is the failure to assign an expert in visual impairment and inclusive education. I think that it might be impossible to assign personal tutor for students with VI now due to shortage of budget. It is important to give special financial support to students with VI. Nevertheless, unless the government considers their problems and assign the budget ear markedly to them, I think that it is not possible to use from regular budget at this moment. I know that students with VI need readers to use the materials that are prepared for the sighted ones and this may require them expend some amount of money. I also know that the budget that is allocated for them from the university is not as such sufficient. The money that is paid for exam readers is not adequate so that students with VI pay additional money from their own pocket.</i></p>	<p><i>I do not have anything to say about the situation around the assignment in buildings, toilet rooms, shower and bath room as there is concerned body assigned for that purpose. Regarding the supportive materials, such as computer screen reader and embosser, it is the disability centre that should make ready to students with VI. It is known that there is a problem regarding the preparation of exam rooms and adjusting to give the exams in the form of listening or through Braille other than using personal readers. Who should bring the exam reader is also a problem. That is to say, there is a complaint from lecturers that exam readers do the exam as students with VI bring them by their own choice. The question of bringing exam readers either by the students or by the lecturers should be solved by the department. What has been thought but not yet been implemented is the idea of examining students with VI through letting them listen on the computer. We have not tried to make this idea practical. We do have gaps, and we should think about examining students using a computer in the future. This may be a solution for those lecturers who complain about the misdeed of exam readers. On the other hand, the problem of invigilating students with VI on the corridors is true. Really, making students with VI take exams there creates a problem on them by the passersby. This again makes them not to do</i></p>

<p>peers. The assistive materials you mentioned are not provided to them at the department level because no budget is assigned for that purpose from the university. Indeed, as it is not a common issue, we never ask the concerned body to allocate us budget. As no budget is allocated, we also never ask lecturers to prepare and provide supplementary materials to students with VI. There are, however, lecturers who support them voluntarily. For instance, as the students with VI did not get anybody who read the handouts freely, I know that three lecturers who voluntarily recorded their handouts using a tape recorder and gave them. Those who did this are lecturers who taught Linguistics, Survey of Literature, and Composition courses. This is what they did as a trial. To make other lecturers do the same thing, it needs to cover the expense for the extra time they are going to spend. To do this, there is no budget allocated to us for such purposes from the university. We don't ask the university to allocate budget based on the prior experience that we have. However, our negligence not to ask the university to allocate budget for such purposes is really a mistake and we should correct it in the future.</p> <p>Question: Students with VI have a much more expense than the sighted students in relation to the supplementary materials and peer tutoring they need. Considering this, is there any financial support that you do for students with VI?</p> <p>As to us, I mean there is not anything that is adjusted in relation to financial support for students with VI at the department level. It is also clear that the peer tutor support they get from volunteers does not continue for more than one time. Even no budget is available in the department for students with VI to pay for those who read examinations. As the payment is made by dean's office for student affairs, what we do is just informing how much time is allotted for the examination. We even do not know how much money is paid for the readers of examinations. We did not ask the university to allocate us the budget to pay for examination readers at the department level.</p> <p>Question: As far as time allotment is concerned, taking all the challenging situations into account, is there any special treatment to allow additional time for students with VI, especially for doing assignments and examinations?</p> <p>Although it lacks consistency, there is a time where we add extra time for students with VI when they take examination. For instance, if an hour is allotted for an examination, there</p>	<p>Question: The problem that students with VI raise in relation to examination is not only about exam readers but also about the time that is allowed to them to do exams and assignments. The time allotted to do exams or assignments is the same as to that of the sighted students. Even they take examinations on the corridors unlike their sighted peers and they are usually disturbed by the noise created by the passersby. In relation to this, the students complain that both the readers and the lecturers do not allow us to do for some more additional time to compensate the time for rereading the exam. The majority of lecturers are unwilling to give additional time for students with VI to manage the challenges they might face during examinations. How do you see this problem?</p> <p>We lecturers do not know the fact that the amount of time that is allowed to students with VI for their examinations. We don't have the awareness about additional time. I think that it will be good to design appropriate system or a kind of policy that guides the time allotment to students with VI. I said this because most of us do not have the awareness. Students with VI are made to take examinations on the corridor because the voice of their readers may not disturb the other students. To examine students with VI together with others is a problem as it is difficult to get a room for each student. We have a shortage of classrooms at present to let all students with VI take the examination is the classrooms. That is why they are made to take the examinations on the corridor. The only means that the associate dean has is to let students with VI sit for exam on the corridors.</p>	<p>the exam properly. Therefore, this also should be considered in the future as this is real challenge that happens and need to be solved. For instance, it is clear that in Dilla University, students with VI take exams on a computer. It has been thought over to bring this experience to our university but in vain. Who should be the exam readers is our university's problem. This should also be solved. However, I have no idea about considering the time allocated for exams to students with VI in a special way. Regarding the problem of exam readers which is raised by both lecturers and students with VI, it can be solved through ICT and we should strive to implement it. It is good to create a computerized system and train students on how to use on the computers to solve the problem. We do not know about how much money is paid by students with VI for exam readers and who follows up that as it is not implemented by our office. To solve this problem, the departments and faculties should find solutions because they are responsible to allocate the budget. It is not related to our duty. Concerning improving the monthly pocket money which is given in the form of disability allowance for students with VI is the business of the disability centre, not our office's duty. As to me, there is no budget and I have nothing to give. However, I know that 150 birr is given monthly for one visually impaired student in the form of support. As it is the disability centre that provides this support and other materials, for example Braille papers, it is the responsibility of the centre to answer their questions. In comparison to other universities, the payment is less in our university because the number of students with VI is very high and it will be difficult to pay like the other universities. The number of students with VI in the other universities may be five and ten, but there are not less than 200 students with VI in our university. For this reason, the kind of support can be different from university to university. In addition to this, students with VI want a lot of material support which is demanding. This again might be a problem to the disability centre.</p>
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*is a practice to add 15 minutes more for students with VI. However, a lot of lecturers do not add extra time because they may not know how to deal with the assessment-related problems. The main reason for this problem is the fact that there are newly employed lecturers assigned every year and they are not made to have the awareness on how we treat students with VI in some cases.*

*Question: Regarding examinations, students with VI expressed that as they are made to take examinations on corridors, they are disturbed by noises made by the passers. How do you see such a problem in your department?*

*Letting students with VI take examinations on corridors and exposing them to noises is a reality. The cause of this problem is scarcity of examination rooms and assigning students for examination is done by the associate dean of the faculty, not by the department. As it is difficult to get a free classroom near to a room which is assigned to all students in a particular section, the students with VI are made to take the examinations by the help of their readers in the corridors around the room. They cannot be examined together with the sighted students in a room because when the readers read the examinations to them, the sighted ones will be disturbed. Besides, to make them take the examinations on Braille with the sighted students, we do not know how to read Braille. There are also some from students with VI who cannot write on Braille, for instance, of the 24 students whom I teach, almost 14 of them are illegible to Braille writing. That is why we made them bring examination readers who can help them to write the answers. This by itself has created a problem on us. For example, we give handouts, and some students with VI give the handouts to the examination readers and make these readers read the handouts and do the examinations on behalf of them. For this reason, the students with VI do not study for the examinations.*



**Table 11 Question 7.5:**

*What are your comments towards making the physical environment, such as buildings, roads/paths and recreational centres accessible to students with VI? Especially, when the classrooms are assigned by the associate dean of the college, students with VI are ignored and their lecturers are not consulted. As a result, students with VI are assigned on the last upstairs where they have difficulty when they go up and down the stairs. On the contrary, students with VI want to be assigned on the first floor. How do you see this in your part?*

SM Participant 1	SM Participant 2	SM Participant 3
<p>As these things are the business of administrative workers, it is better to ask them.</p> <p>Question: What do you do at the department level for those students with VI who do not have sighted friends to show them their classroom?</p> <p>Concerning this, I have never met any students with VI who faced such a problem. However, I think that there are a lot of thing that we should do for students with VI ahead of time. For instance, it is the faculty that assigns the number of students who should learn in a classroom. However, the dean of the faculty who assigns the students in one classroom does not know how many students with VI are assigned while they do not declare their impairment. When the dean also assigns classrooms for students with VI, he/she does not consult the department head. Because of this, there is a situation where by students with VI are assigned in the upstairs whereas it was possible to assign them in the ground floor. The dean of the faculty assigns students in classrooms by looking at their lists, not by their physical circumstances. Since the dean should not try to identify their problems, there is a time when students with VI are made to learn certain courses in the upstairs.</p>	<p>It was possible to assign the classrooms as to their request. I think it is possible to take this as a wrong deed and we should improve it for the future. It is possible to do this by exchanging classrooms easily.</p>	<p>Regarding accessibility of physical environment, students with VI may face some problems. For example, during the assignments of classrooms, as they do not inform their problems, they might be assigned upstairs or in a difficult room to them. It is not possible to change and improve this because of communication gap. I think that as classrooms are arranged by each college, if students with VI report to the college, their problem can be solve. The rooms are in the hands of each college.</p>

**Table 12 Question 7.6:**

*Students with VI want the university to have a clear policy or legislation to fulfil the aforementioned needs and solve the challenges mentioned earlier. What is your suggestion on this?*

SM Participant 1	SM Participant 2	SM Participant 3
<p>There are some general frameworks in the university senate legislation that show what should be done to all students. Especially, for those students who have physical impairment, the legislation demands to make adjustments by taking their problems into account. However, I think that there is some kind of gap in the legislation about what special thing should be done for students with VI. The other problem is that the failure to implement what is inside in the legislation. For instance, one visually impaired student has brought software that can read writings on a computer and he loaded it on computers in Kennedy Library to be used by students with VI. When that student who brought the software graduated from the university, the service is interrupted as there is not anyone who replaced him. Surprisingly, I saw that visually impaired student in Dilla University were</p>	<p>I think that the university may not have a problem to put things like a policy and regulation so as to support students with VI. I think it is better to ask those higher officials as I do not make ready anything from any articles in the policy and regulation of UA. Therefore, I believe that a system that benefits students with disability should be incorporated in the university policy.</p>	<p>I am not sure whether what should be done to students with VI is incorporated in our policy. Otherwise, it should be there. If there is not anything about students with VI in the university's legislation and regulation, I believe that it should be included. Unless what should be done to them is not clearly stated there, it might be difficult to continue as a system and provide them the support uniformly.</p>

using the software. I think that the administration in our university should have assigned an expert and continued using the software.		
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**Table 13 Question 8:**

*Would you please list the possible solutions that can alleviate or minimize the problems or challenges students with VI face in University A orderly?*

SM Participant 1	SM Participant 2	SM Participant 3
<p>Most of the problems are related to lack of knowledge, and therefore, giving orientation for all lecturers is the primary solution. Training should be given on how to treat/handle students with some kind of disabilities, including visual impairment. Secondly, it is important to provide assistive materials for students with VI in each department. For instance voice recorder, computer software and other facilities should be fulfilled. Probably, community radio service has become functional this year, and I think that it might be possible to make information accessible to students with VI through it. Especially, to solve the problem of exam readers, it is good to let students with VI take the examination with Braille. It is also possible to train those students with VI to write on Braille and read from it. Thirdly, it is relevant to have a systematic procedure or rules and regulations and regularly discuss on the kind of support and additional services that should be provided to students with VI. Fourthly, in those departments where there are a lot of students with VI, an assistant who is an expert in visual impairment should be assigned for the department head. Lastly, the university should fulfil the needs for special budget, materials and offices as much as possible.</p> <p>As far as the students with VI are concerned, firstly, awareness should be created to tell them the fact that they should be willing to work hard. Secondly, students with VI should accept what they lose is their sight, but they can use their other senses to learn well instead of waiting for others to sympathize with their impairment. Thirdly, lecturers are expected to enhance their interpersonal communication with the students with VI to have trust in them. Lastly, it is necessary to organize trainings and create the opportunity to discuss on what students should do and how they can gain additional support from peers and lecturers.</p>	<p>If there is not anything mentioned clearly in the university policy and legislation to solve the problems and challenges mentioned and make students with VI benefitted, it is crucial to improve this. It is not enough by itself to put as a policy. I think what is essential is to put into practice what is stated clearly in the policy. To make the policy practical, the problem of resource should be solved. If the question of resource is discussed at the university level and the concerned ones allocate enough budgets, it is possible to address all the needs and challenges of students with VI. The availability of supplementary materials and technologies not only in our college but also in others can solve easily the students' as well as the lecturers' problems. Especially, if the computer software which changes the writings into oral is available in the libraries and laboratories by allocating budget from the university, it will be very simple to teach students with VI. I think this will be good for both students and lecturers. If this system is available, not only the volunteer lecturers but also other lecturers (of course the latter may ask for little payment) may prepare their teaching materials in soft copies and make them accessible on computers for students with VI. Moreover, I think it is necessary to let students with VI get a reasonable budget to cover their expenses for exam readers. Especially, instead of asking students with VI to bring exam readers by themselves, I prefer the university to assign reasonable and earmarked budget and give the mandate to departments to assign readers. Thus, the allocation of budget should be directly stated for the purpose of supporting and providing services for students with VI.</p>	<p>As to me, one of the possible solutions that I presume is to enable everybody to understand the issues related to disability and what their special needs are. Secondly, to let students with disability indicate the kind of disability they have whenever they fill in any kind of slip/form in the university. For example, when the placement of students with VI into departments is on progress, adjustments can be made if their needs are clearly known. Thirdly, as the challenges that are created during examinations are the problems of lecturers too, they should be considered. The problem of examination that students with VI might face should get solutions. The other thing is it is crucial to fulfil the necessary facilities for students with VI. If the facilities are fulfilled all their major problems can be solved. Moreover, the university should give due attention to access the physical environment to students with VI. It is important to solve the problems around the roads, classrooms, dormitories, and toilet and bath rooms. Finally, it is important for the university to make students with VI and all the university community be aware of what they should do in relation to the inclusive policy and practices. If there is the need, information on inclusive provision should be disseminating through brochure.</p>

**Table 14 Question 9:**

*If you have any other idea relevant to this study, please forward it.*

SM Participant 1	SM Participant 2	SM Participant 3
<i>I do not have any other comments.</i>	<i>I don't have anything that I have not mentioned. However, there is something that students with VI sometimes raise as an issue. They sometimes ask questions saying that it is our right and the like. When their questions are not answered, they feel that the responsible body has a negative attitude towards them. For instance, they ask, 'why don't we allow them to learn PhD program? Since we can learn and be competent with the sighted ones, why don't you allow us?' They ask this kind of question. I think that it is wrong from the lecturers' side to prevent them from learning. What I have in my mind is that there should be mutual understanding and respect between the two. It is possible to create something better if they focus on discussing to solve the problems and challenges that exist in the university. Trying to understand one another and working collaboratively should be taken into account.</i>	<i>The most important thing is this study will reveal the things students with VI demand. The other thing is as it is the departments that are closely linked with the students with VI; I think that it will be good if the study also focuses on the challenges lecturers face and the solution that should be taken.</i>

I thank you for your cooperation in the interview.

## APPENDIX 9: THE FIRST ROUND DELPHI QUESTIONNAIRE

ADDRESS:

Teferi Adnew Zelelew

Debre Berhan University

P. O. Box: 445 or 276

Fax No.- 251 116812065

Email: [teferiadnew@yahoo.com](mailto:teferiadnew@yahoo.com)

Mobile Phone: 251 911576378

DATE: April 15, 2014

Dear Reader

I would like to ask your help in my Doctorate study on ***'the inclusion of students with VI in University A: Challenges and Prospects'*** under the supervision of Dr Gous-Kemp in the college of Education and Department of Inclusive Education at University of South Africa (UNISA). The main purpose of the study is to explore the existing challenges and prospects, thereby developing an action/strategic plan that would be applied in University A over the next five years for the maximal benefit of students with VI.

This study will employ the Delphi technique, a widely used method of gathering group consensus from a panel of experts. The Delphi technique assures anonymity of responses, reduces group pressure for conformity, and takes less time for panellists than traditional methods of pooling opinion. As an expert in the field of special needs education or inclusive education your participation in this research will be greatly appreciated.

Please note that you should regard the review instrument as a guideline. It has been compiled as a result of review of the New Education Policy and Special Needs Education Program Strategies which guide the implementation of inclusive higher education across the country. This Delphi survey comprises a series of questionnaires to be conducted in several rounds. Each questionnaire requires the participants to answer various questions about support measures to overcome the challenges that students with VI and their lecturers have experienced at University A. The ultimate goal of the questionnaire is to obtain valuable judgments of Delphi participants on the desirability of support measures, their implementation year and required resources, thereby to develop an action plan which will advance the current inclusive policies and practices of University A for the maximal support of students with VI. Your comments may be done on the space provided on the instrument, then it can be summarised in the form of a report to be submitted to the action plan developer. You do not have to reply to all the questions if you prefer to concentrate on your field of expertise. Practical examples will be appreciated and acknowledged in the action plan. The elements of the plan should be evaluated as a whole.

Because it is a rather lengthy plan and I am painfully aware of the time factor, especially for you, I would appreciate it if you would judge the material twice. After the first round I will compile the suggestions and changes and then ask you to scan for a second time to see whether you are satisfied. If there is anything unclear to me, I will phone the relevant person and then finalise the action plan, which must be applied next year.

With your help, this research will greatly help in the training of students with VI in University A to use their full potential in a positive way. I look forward to working with you in the weeks to come.

Respectfully,

Teferi Adnew Zelelew

## LETTER OF INFORMED CONSENT FOR DELPHI SURVEY PARTICIPANTS

Dear Sir/Madam

The following information is being presented to help you decide whether or not you want to be a participant of this study that would not cause any harm. Please, read all the statements carefully. If you have any questions concerning the research study, please contact me, the principal researcher: Teferi Adnew Zelelew using my cell phone 0911576378 or email [teferadnew@yahoo.com](mailto:teferadnew@yahoo.com)

I am a doctoral student, conducting a research study entitled ***'the inclusion of students with VI in University A: Challenges and Prospects'*** under the supervision of Dr Gous-Kemp in the college of Education and Department of Inclusive Education at University of South Africa (UNISA). The main purpose of the study is to explore the existing challenges and prospects, thereby developing an action/strategic plan that would be applied in UA for the maximal benefit of students with VI. The study also comprises the following specific objectives:

1. To identify the challenges or barriers that students with VI experience in University A.
2. To explore possible resources (human, physical and financial) which are necessary to provide effective support to students with VI in University A.
3. To determine solutions to overcome barriers that students with VI face in University A.
4. To develop an appropriate action plan for University A for the support of students with VI to be implemented over a period of time.

Therefore, I am requesting your consent to take part in this study by filling Delphi questionnaires for two rounds to achieve a considerable consensus among panel experts. One round Delphi process will take about 40-60 minutes of your time. This Delphi process requires answering various questions about support measures identified to overcome the challenges that students with VI and their staff have been experiencing in University A as well as your recommendations on resources needed. Although there may be no direct benefit to you, your participation in the study will have a considerable contribution to propose potential measures for overcoming the serious challenges that students with VI and their staff have been experiencing in University A. Besides, the researcher will provide you a copy of an action plan which entails the final results of the study.

Your participation in this study will be based on your consent. If you choose not to participate or to withdraw from the study at any time, there will be no penalty. The results of the study may be available in the UNISA Library, but your name will not be used. Any information obtained from you through the study will be kept confidential. I and my supervisor will be the only persons who know about the identity of the participant. The information forwarded by you will be securely kept in the office of the researcher for five years from the completion of the study, and then be discarded with a great care.

Sincerely,

Teferi Adnew Zelelew

## CONSENT FORM

1. I agree to take part in the research entitled: 'the inclusion of students with VI in University A: Challenges and prospects'.
2. I understand that the study involves the activities, such as filling a series of questionnaires for certain rounds. The activity which is likely to take 40-60 minutes focuses on the development of an action plan for University A to advance its inclusive policies and practices when serving students with VI.
3. I have read and understood the information sheet for this study.
4. The nature and purposes of the study are explained to me.
5. I understand that the research data gathered from me may be appeared in the final thesis by maintaining my rights of anonymity.
6. I understand that all the research data will be securely kept for five years, and will then be discarded with a great care.
7. I understand that the researcher will maintain confidentiality as well as any information I forwarded will be used only for the purpose of the research.
8. I agree to participate in this study and understand that I may withdraw at any time without any effect.
9. Any questions that I have asked have been answered to my satisfaction.
10. I understand that I am asked to participate in the study, and I voluntarily consent to participate in the research project described in this form.

Name of Participant	Sex	Age	Academic rank	Faculty and Department	Years of service in UA	Your current position	Years of service in the position	Signature	Date

### Delphi questionnaire one

This questionnaire is prepared to be conducted in the first round Delphi survey since the Delphi method may be repeated for several rounds until a considerable consensus is achieved among participants. Particularly, this questionnaire involves closed and open-ended questions that seek biographical data about the participants as well as factual information about implementation years and resources needed for the support measures aimed at the full inclusion of students with VI in University A.

### INSTRUCTION

1. Kindly note that all information will be treated as confidential as your privacy is important to us. This research upholds the ethical research principles which UNISA abides by.
2. Kindly note whether only one or multiple responses are requested from you on each question.
3. Mark your choice with an "X" or write your answer precisely where relevant.
4. The questionnaire consists of two sections.

Section A: Biographical data

Section B: Factual data related to support measures that should be taken over the next five years and resources that should be available to provide maximal support to students with VI in University A

### Section A: Biographical data

#### 1. Qualification in general

A. Bachelor Degree	B. Masters Degree	C. Doctoral Degree	D. Others please specify

#### Qualification in special needs education or inclusive education

A. Bachelor Degree	B. Masters Degree	C. Doctoral Degree	D. Others please specify

Please indicate the different professional positions you have had regarding higher education in general and special needs education and/or inclusive education in particular.

No.	Qualification	Position	Institution/faculty	Duration

	Add more rows if needed			
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**Years of experience in teaching at higher education institution:**

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**Years of experience in teaching at University A:**

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**Years of experience in teaching impaired students:**

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**7. Years of experience in teaching students with VI:**

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**NB: You can attach your CV**

## Section B: Factual data

### INSTRUCTION

1. *Kindly indicate your extent of agreement with each of the following support measures by marking your choice with an “X” to show the particular year/years for the implementation of each measure in the matrix of a five year scales provided according to their importance, feasibility and ease of implementation.*
2. *Fill the needed human, physical/material and financial resources in the boxes provided. You can use the backside of the page where necessary.*

Support categories/the mes	Support measures	Responses of Delphi experts to first round questionnaire					Resources (human, physical and financial resources) needed
		Implementation year					
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	
1. Policy-related support measures	1. Developing and implementing enabling polices and legislations for the full inclusion of students with VI in University A:						
	1.1 Reviewing the existing university’s policies and legislations in accordance to international and local legal frameworks accepted by Ethiopian government to ensure the rights and equal opportunities of students with VI in all aspects of inclusive provision;						
	1.2 Setting out a clearly articulated set of policy standards and tools in line with social model of disability and associated theoretical frameworks on which the inclusion of students with VI can be based;						
	1.3 Making available proactive and binding institutional policy frameworks which enable students with VI to get additional support and make adjustments on the provision of curriculum, instructional and assessment strategies, as well as human, physical and financial resources to meet their special needs;						
	1.4 Informing regularly everything that has been included into the policies and legislations of the university to students with VI and other university community;						
	1.5 Auditing and reviewing the impacts of existing polices and legislations at the end of every operational year and make changes resulting from such evaluation in collaboration with students with VI;						
2. Admission-related support measures	2. Providing information and priority to students with VI when making decision on their choice of fields of study in University A:						
	2.1 Setting clear, flexible and supportive entry criteria to assign students with VI into different fields of study based on their personal preferences;						
	2.2 Providing information to students with VI in alternative formats on matters of program specifications and support services and resources available in the institution, faculties, and departments prior to applying for the particular field of study;						



	2.3 Providing guidance and counselling services to students with VI on admission-related issues in order to make a conscious or informed choice about their fields of study;						
	2.4 Allowing students with VI to be admitted into different departments based on their choice regardless of assuming that they are incapable because of their impairment;						
	2.5 Giving priority to students with VI when they compete with their sighted counterparts to join the departments on the basis of their academic results;						
3. Access to additional support services	3. Accessing support services and accommodations for students with VI to achieve their active participation and full inclusion in the university life and education:						
	3.1 Accessing emotional and social support through:						
	3.1.1 Providing students with VI varying levels of additional guidance and counselling services that enable them actively and fully involved in the broader academic and socio-cultural arenas of University A by resourcing the disability centre and departments with specialist experts;						
	3.1.2 Allowing students with VI to arrive a week earlier and gain orientation and mobility training from specialist experts of the disability centre on how to locate various rooms and buildings of the university;						
	3.1.3 Assigning students with VI in dormitories together with sighted peers to promote diverse social interactions;						
	3.1.4 Establishing values that appreciate the full participation of students with VI into socio-cultural activities as equal part of university community;						
	3.1.5 Providing special opportunity to students with VI for creating social contact with the university staff who have visual impairment;						
	3.1.6 Interacting with students with VI respectfully in class and extra-curricular activities of the university;						
	3.1.7 Involving students with VI in recreational activities together with sighted peers;						
	3.1.8 Involving students with VI, including females, in Blind Sports, including Para Olympic Games, when necessary;						
	3.2 Accessing academic support through:						
	3.2.1 Resourcing the disability centre and departments with specialist experts, including those who have visual impairment, and providing technical support to students with VI and their lecturers in adapting the educational materials and facilities;						
	3.2.2 Accessing specialist support to students with VI from the professionals of visual impairment and inclusive education or special needs education available in different departments;						
	3.2.3 Accessing general academic support to students with VI from their lecturers and academic leaders;						
	3.2.4 Accessing personal tutor/mentor support or peer-mentoring service, including mobility assistance, reader, note-taker and materials-adaptor;						

	3.2.5 Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university;						
	3.2.6 Accessing additional support from other institutions and voluntary agencies (e.g., Ethiopian Association for the Blind);						
4.Adaptation of curriculum, instructional strategies and assessment tools	4.Adapting the curricula, instructional strategies and assessments in order to meet the varied needs of students with VI in University A:						
	1.1 Access to curricular adaptations/differentiation through:						
	4.1.1 Making regular discussions with students with VI to determine curricular modifications for their specific needs;						
	1.1.2 Adapting the curriculum materials, such as syllabus, module, course outline, lecture-notes, handouts, worksheets and assignments to students with VI in their preferred formats;						
	1.1.3 Adapting the curriculum content and delivery according to the learning pace and styles of students with VI;						
	1.1.4 Providing references in alternative formats for students with VI and allowing them to write a senior essay for graduation;						
	1.2 Adapting instructional strategies for students with VI through:						
	1.2.1 Increasing the awareness and skills of academic staff and adapting the instructional strategies in favour of students with VI;						
	1.2.2 Enhancing the accessibility of each course instruction and activity to students with VI through modifying the classroom organization or laboratory setup in the way that suits students with VI;						
	1.2.3 Adjusting the instructional processes in line with the learning interests, styles and rates of students with VI;						
	1.2.4 Keeping a front row seat open for students with VI to easily identify their seats and listen the explanation of lecturers;						
	1.2.5 Making available copies of syllabi, handouts and assignments two or three weeks prior to the beginning of classes for recording or Braille transcription;						
	1.2.6 Providing students with VI the instructional materials in alternative formats, such as recorded, brailled, embossed, and other audio and tactile formats at the same time when given to the sighted peers;						
	1.2.7 Allowing students with VI to record lectures;						
	1.2.8 Verbalizing repeatedly what is written on the board or slides and presented in handouts;						
	1.2.9 Pacing the presentation of course materials or allowing extra time for students with VI in course activities that need to refer to a textbook or handout;						

	1.2.10	Applying collaborative teaching and cooperative learning;					
	1.2.11	Asking for a sighted volunteer student to team up with a visually impaired student for group works and in-class assignments;					
	1.2.12	Making arrangements (e.g., transportation, guide and site accessibility) early for fieldtrips;					
	1.3	Adapting and making reasonable adjustments to examination and other assessment tasks through:					
	4.3.1	Accessing examination and other assessment tools to students with VI in alternative formats, such as in tactile/Braille and audio-taped format or using a personal computer with voice synthesizer or a note-taker and reader;					
	4.3.2	Showing flexibility with deadlines of assignments that need document conversion process, such as CD, Braille and electronic printing;					
	4.3.3	Allowing students with VI double time for examination, test and quiz;					
	4.3.4	Minimizing assessment issues like stress or frustration by presenting oral examination instead of written one or short-answer instead of multiple-choice and matching questions;					
5. Provision of human, physical and financial resources	4.3.5	Reviewing regularly the assessment arrangements of the university in consultation with students with VI to ensure the attainment of both students' needs and stated course objectives.					
	5	Accessing adequate and relevant resources for maximal support of students with VI to achieve full academic and social inclusion in University A:					
	5.1	Accessing human resources through:					
	5.1.1	Assigning knowledgeable and adequate experts into the disability centre to support the inclusive learning of students with VI;					
	5.1.2	Deploying specialist staff who regularly support students with VI and their staff at department level;					
	5.1.3	Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life skills;					
	5.1.4	Providing opportunities for students with VI to have personal assistants based on their needs;					
	5.1.5	Allowing students with VI to hire their own personal assistants or tutors by using the budget allocated from the university;					
	5.1.6	Assigning faculty and department leaders in light of their commitment and capacity for responding to learner diversity;					
	5.1.7	Arranging regularly the teamwork and collaboration between the lecturers of students with VI and professionals of special needs education from departmental or institution-wide staff to advance the inclusion of students with VI in University A;					
	5.1.8	Collaborating with disability-related associations, NGOs, and other relevant institutions to enhance inclusive services for students with VI;					

	5.1.9 Accessing staff development programs to address the human resource shortage and knowledge gaps in achieving the inclusive learning goals in University A by:						
	5.1.9.1 Providing general orientation and introduction to all service providers, including lecturers, management and peers on how to deal with academic and non-academic needs of visually impaired learners within the inclusive environment of University A;						
	5.1.9.2 Providing all academic staff short term training on the basic principles of inclusive education to remove their knowledge deficiency and negative disposition towards the inclusion of students with VI;						
	5.1.9.3 Implementing either pre-service or in-service teacher training to build the capacity of lecturers of students with VI regarding inclusive educational policies and practices in higher education;						
	5.1.9.4 Designing continuous professional development program for the academic staff on inclusive support systems, curricular modification and adaptation of instructional and assessment strategies as well as on how to use assistive technologies to meet the special needs of students with VI;						
	5.1.9.5 Providing special training to students with VI on how to write and read on Braille to ease their communication;						
	5.1.9.6 Devising better incentive mechanisms, such as academic promotion opportunities or annual appraisals to encourage staffs who serve students with VI after completing the continuous professional development program or training on inclusive education;						
	5.2 Accessing physical resources with no barriers to learning and living in University A through:						
	5.2.1 Auditing regularly the physical environment by trained auditors in consultation with students with VI and disability support staff to identify the barriers for accessibility;						
	5.2.2 Updating the design standards of physical resources in favour of students with VI;						
	5.2.3 Establishing friendly and accessible physical environment, including buildings, play grounds, landscaping, car parking, routes of travel and sanitation rooms and facilities for the accommodation of students with VI;						
	5.2.4 Re-adjusting the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible for students with VI;						
	5.2.5 Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when re-adjustment is impossible;						
	5.2.6 Building ramps to ease access for the students with VI;						
	5.2.7 Making available campus signs and maps in tactile format;						
	5.2.8 Providing consistent orientation and mobility training to locate the buildings and rooms without assistance;						
	5.2.9 Setting out standards on how adaptive materials and technologies should be accessible to students with VI;						

5.2.10	Providing students with VI a variety of adapted educational materials, such as brailled literature, embossed and recorded curricular materials, reading and writing tools;						
5.2.11	Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen reader, speech synthesizers, Braille transcribers and e-books or e-resources;						
5.2.12	Organizing libraries, laboratories and computer centres with adapted equipment and technologies to serve students with VI;						
5.2.13	Arranging computers with appropriate software especially for female students with VI in their dormitories in order to protect them from any form of sexual harassment;						
5.2.14	Offering training to students with VI and their lecturers on how to use the adapted materials and ICT;						
5.2.15	Taking into account the safety and security of students with VI when arranging seats and facilities in the classroom, libraries, laboratories and computer rooms;						
5.3	Accessing adequate financial resources for additional needs of students with VI by:						
5.3.1	Examining the existing funding system based on the principle of equalization of opportunities for students with VI;						
5.3.2	Allocating budget ear markedly for faculties and departments to address budget-related challenges of students with VI;						
5.3.3	Establishing external funding streams with partners to make good use of external financial resources;						
5.3.4	Offering additional fund through disability student allowance scheme to buy adaptive materials and technologies as well as to pay for their maintenance and consumables;						
5.3.5	Allocating adequate budget regularly for students with VI to hire personal assistances, such as readers of written materials and examinations;						
5.3.6	Allowing students with VI to manage their personal budget allocated through the students' funding program;						
5.3.7	Devising additional payment system or incentive mechanism to academic staffs and implementing accordingly for the extra time they used to provide special support to students with VI in terms of accessing their teaching materials and modes of assessment in alternative formats.						

6 Please, specify any other suggestions you have for this study.

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Thank you for participating in this questionnaire.

If you have a need to contact me afterwards, my contact details are the following: Phone no. 251 11 06812034 or 251 9115763, Email: [teferiadnew@yahoo.com](mailto:teferiadnew@yahoo.com)

## APPENDIX 10: THE SECOND ROUND DELPHI QUESTIONNAIRE

This questionnaire will be conducted in the second round of Delphi process in order to generate better data on the issues raised within Delphi questionnaire one. It will primarily incorporate the previous responses of the participants for further reconsideration and refinement so that it comprises close-ended questions. As a result, this questionnaire seeks your final decision upon getting feedback about the results of Delphi questionnaire one with the purpose of refining the action plan developed for University A based on the final recommendations of Delphi experts. Therefore, you are kindly required to reconsider your prior responses and indicate your preferences on the support measures, their implementation year and resources needed to support students with VI more effectively in University A.

### ***INSTRUCTION***

Please, respond to the following support measures and indicate your final decision by reviewing the responses of other participants and remarking your choice with an “X” in the matrix of a five year scales to determine the implementation year of each measure in which you provided differing response during the first round Delphi questionnaire.

N.B:

The total number of Delphi participants is six and coded as P1, P2, P3, P4, P5, and P6. If 3 and above of the participants agree with the implementation year of each support measures, it is an acceptable consensus. Having this in mind, please reconsider your prior preferences that are different from the majority of respondents.

Support categories/ themes	Support measures	Respondents of first round questionnaire					Responses of Delphi experts to second round questionnaire					Resources (human, physical and financial resources) needed
		Implementation Year					Implementation Year					
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	
1.Policy-related support measures	1. Developing and implementing enabling polices and legislations for the full inclusion of students with VI in University A:  Reviewing the existing university`s policies and legislations in accordance to international and local legal frameworks accepted by Ethiopian government to ensure the rights and equal opportunities of students with VI in all aspects of inclusive provision;	P1 P2 P3 P4 P5 P6	-	-	-	-						Assistants (2),  relevant documents.  Stationeries, office(P1);  Financial resources (P2);  Human. material and  Financial resources (P3);  Experts (P4);  Human resource(P5);  Human and financial resources and  commitment of high-level officials (P6);
	Setting out a clearly articulated set of policy standards and tools in line with social model of disability and associated theoretical frameworks on which the inclusion of students with VI can be based;	P1 P2 P3	P6	-	-	-						Commitment of higher level officials (P6);

		P4									
		P5									
	Making available proactive and binding institutional policy frameworks which enable students with VI to get additional support and make adjustments on the provision of curriculum, instructional and assessment strategies, as well as human, physical and financial resources to meet their special needs;	P1 P2 P3 P4 P5	P5    	P5 P6   	P5    	P5    					Public relation (P1);  Financial resources (P2);  Human. material and financial resources (P3);  Human and financial resource(P5);
	Informing regularly everything that has been included into the policies and legislations of the university to students with VI and other university community;	P1 P2 P3 P4 P5 P6	P5 P6   	P5 P6   	P5 P6   	P5 P6   					Financial and human resources (P2); Human. material and financial resources (P3);
	Auditing and reviewing the impacts of existing polices and legislations at the end of every operational year and make changes resulting from such evaluation in collaboration with students with VI;	P5  P2 P3 P5 P6	P1 P2 P3  	P3 P4 P5  	P3 P5   	P3 P5   					Financial and human resources (P2, P3);
2 Admission related	2 Providing information and priority to students with VI when making decision on	P1 P2 P3	P4 P5  	P5   	P5   	P5   					Financial and human resources (P2);  Human resources (P4);



support measures	their choice of fields of study in University A:	P5									
	2.1 Setting clear, flexible and supportive entry criteria to assign students with VI into different fields of study based on their personal preferences;	P6									
	Providing information to students with VI in alternative formats on matters of program specifications and support services and resources available in the institution, faculties, and departments prior to applying for the particular field of study;	P2	P1	P1	P1	P1					Financial and human resources (P2);  Material resources (P3);  Adaptive material resources (P4);
		P5	P2	P2	P2	P2					
			P3	P3	P3	P3					
			P4	P4	P4	P4					
			P5	P5	P5	P5					
			P6								
	Providing guidance and counselling services to students with VI on admission-related issues in order to make a conscious or informed choice about their fields of study;	P5	P1	P1	P1	P1					Financial and human resources (P2);  Professional carrier counsellor (P3);  Human resources (P4);
		P6	P2	P2	P2	P2					
			P3	P3	P3	P3					
			P4	P4	P4	P4					
			P5	P5	P5	P5					
	Allowing students with VI to be admitted into different departments based on their choice regardless of assuming that they are incapable because of their impairment;	P5	P1	P1	P1	P1					Human resources (P2);  Orientation provider (P3, P4);
			P2	P2	P2	P2					
			P3	P3	P3	P3					
			P4	P4	P4	P4					
			P5	P5	P5	P5					
						P6					

	Giving priority to students with VI when they compete with their sighted counterparts to join the departments on the basis of their academic results;	P5 P6  P3 P4 P5	P1 P2  P3 P4 P5	P1 P2  P3 P4 P5	P1 P2  P3 P4 P5						Human resources (P2);
3 Access to additional support services	<p>3 Accessing support services and accommodations for students with VI to achieve their active participation and full inclusion in the university life and education:</p> <p>3.1 Accessing emotional and social support through:</p> <p>1 Providing students with VI varying levels of additional guidance and counselling services that enable them actively and fully involved in the broader academic and socio-cultural arenas of University A by resourcing the disability centre and departments with specialist experts;</p>	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5						<p>Physical, financial and human resources (P2);</p> <p>Experts of special needs</p> <p>Education in all colleges (P3);</p> <p>Human resources or professional guidance and counselling (P4);</p> <p>Financial and human resources with commitment (P6)</p>
	2 Allowing students with VI to arrive a week earlier and gain orientation and mobility training from specialist experts of the disability centre on how to locate various rooms and buildings of the university;	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	P1 P3 P4 P5						<p>Human resources (P2);</p> <p>Human and material Resources, e.g., campus map on Braille (P3);</p> <p>Experts on mobility training and white canes (P4);</p> <p>Officials with awareness</p>

												and commitment (P6)
	3 Assigning students with VI in dormitories together with sighted peers to promote diverse social interactions;	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5							Physical and human resources (P2);  Human resources who  Provide awareness on  social integration (P3);  Temporary peer-mentors (P4);
	4 Establishing values that appreciate the full participation of students with VI into socio-cultural activities as equal part of university community;	P5 P6  P3 P4 P5	P1 P2  P3 P4 P5	P3     P5	P3     P5							Human resources (P2);  Human resources who  provide  awareness on social  integration (P3);  Officials with awareness  and commitment (P6)
	5 Providing special opportunity to students with VI for creating social contact with the university staff who have visual impairment;	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5	P1 P3 P5	P1 P3 P5							Human resources (P2);
	6 Interacting with students with VI respectfully in class and extra-curricular activities of the university;	P1 P2	P1 P2	P1 P3	P1 P3							Human resources (P2);

		P3 P5 P6	P3 P4 P5	P5	P5	P5						
	7 Involving students with VI in recreational activities together with sighted peers;	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5	P1 P3 P5						Human resources (P2);  Adapted material  resources (P3);  Physical resources (P6);
	8 Involving students with VI, including females, in Blind Sports, including Para Olympic Games, when necessary.	P5	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5	P1 P3 P6						Financial and human resources (P2); Financial and adapted material resources (P3); Sport materials suitable to Visually impaired people (P4);
	Accessing academic support through: 1 Resourcing the disability centre and departments with specialist experts, including those who have visual impairment, and providing technical support to students with VI and their lecturers in adapting the educational materials and facilities;	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5	P3 P5	P3 P5	P3 P5						Financial and human resources (P2);  Human resources (P3, P4);

2	Accessing specialist support to students with VI from the professionals of visual impairment and inclusive education or special needs education available in different departments;	P1	P1	P1	P1	P1						Financial and human resources (P2);
		P2	P2	P2	P2	P3						Human or professional resources (P3, P4);
		P3	P3	P3	P3	P5						
		P5	P4	P5	P5							
3	Accessing general academic support to students with VI from their lecturers and academic leaders;	P6	P5									
		P1	P1	P1	P1	P1						Financial and human resources (P2);
		P2	P2	P2	P2	P3						Human resources (P4);
		P3	P3	P3	P3	P5						
4	Accessing personal tutor/mentor support or peer-mentoring service, including mobility assistance, reader, note-taker and materials-adapter;	P5	P4	P5	P5	P6						
		P6	P5	P6	P6							
			P6									
		P1	P1	P1	P1	P1						Financial and human resources (P2); Human. material and financial resources (P3); Human resources (P4);
5	Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university;	P2	P2	P2	P2	P3						
		P3	P3	P3	P3	P5						
		P5	P4	P5	P5							
		P6	P5									
5	Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university;	P5	P1	P1	P1	P1						Financial and human resources (P2);
		P6	P2	P2	P2	P3						Human resources (P3, P4);
			P3	P3	P3	P5						
			P4	P5	P5							
5	Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university;		P5									

	3.6 Accessing additional support from other institutions and voluntary agencies (e.g., Ethiopian Association for the Blind);	P5	P1 P2 P3 P4 P5 P6	P2 P3 P5	P2 P3 P5	P1 P2 P3 P5						Financial and human resources (P2);  Human resources (P4);
4 Adapta- tion of curriculum instruction al strategies and assess- ment tools	4 Adapting the curricula, instructional strategies and assessments in order to meet the varied needs of students with VI in University A:  4.1 Access to curricular adaptations/differentiation through: 4.1.1 Making regular discussions with students with VI to determine curricular modifications for their specific needs;	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6	P1 P2 P3 P4 P6	P2 P3 P6	P3 P6						Financial and human resources (P2, P6);
	4.1.2 Adapting the curriculum materials, such as syllabus, module, course outline, lecture-notes, handouts, worksheets and assignments to students with VI in their preferred formats;	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6	P1 P3 P4 P5	P3 P5	P1 P3 P5						Financial and human resources (P2);  Human resources (P4);
	4.1.3 Adapting the curriculum content and delivery according to the learning pace and styles of students with VI;	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6	P1 P3 P4 P5	P1 P3 P5	P1 P3 P5						Financial and human resources (P2);  Human resources (P4);

4.1.4 Providing references in alternative formats for students with VI and allowing them to write a senior essay for graduation;	P1 P2 P3 P5	P1 P2 P3 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6						Financial resources (P2);  Material resources/soft copies (P3);  Human resources (P4);
4.2 Adapting instructional strategies for students with VI through: 4.2.1 Increasing the awareness and skills of academic staff and adapting the instructional strategies in favour of students with VI;	P1 P2 P3 P5 P6	P1 P2 P3 P5	P1 P3 P4 P5	P3 P5 P5	P3 P5 P5						Financial and human resources (P2);  Human/professionals and financial resources (P3);  Human resources (P4);
4.2.2 Enhancing the accessibility of each course instruction and activity to students with VI through modifying the classroom organization or laboratory setup in the way that suits students with VI;	P1 P2 P3 P5 P6	P1 P2 P3 P5	P1 P3 P4 P5	P3 P5 P5	P3 P5 P5						Financial and human resources (P2);  Human. adapted material and financial resources (P3, P4);
4.2.3 Adjusting the instructional processes in line with the learning interests, styles and rates of students with VI;	P1 P2 P3 P5	P1 P2 P3 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P5	P1 P3 P5						Financial and human resources (P2);  Human resources (P4);

4.2.4 Keeping a front row seat open for students with VI to easily identify their seats and listen the explanation of lecturers;	P1	P1	P1	P1	P1						
	P2	P2	P2	P2	P2						
	P3	P3	P3	P3	P3						
	P5	P5	P4	P5	P5						
	P6		P5								
4.2.5 Making available copies of syllabi, handouts and assignments two or three weeks prior to the beginning of classes for recording or Braille transcription;	P1	P1	P1	P1	P1						Financial resources (P2);
	P2	P2	P2	P2	P2						Material resources (P3);
	P3	P3	P3	P3	P3						
	P5	P5	P4	P5	P5						
	P6		P5								
4.2.6 Providing students with VI the instructional materials in alternative formats, such as recorded, brailled, embossed, and other audio and tactile formats at the same time when given to the sighted peers;	P1	P1	P1	P1	P1						Financial resources (P2);
	P2	P2	P2	P2	P2						Adapted material resources
	P3	P3	P3	P3	P3						(P3);
	P5	P5	P4	P5	P5						
	P6		P5								
4.2.7 Allowing students with VI to record lectures;	P1	P1	P1	P1	P1						Financial resources (P2);
	P2	P2	P2	P2	P2						
	P3	P3	P3	P3	P3						
	P5	P5	P4	P5	P5						
	P6		P5								



4.2.8 Verbalizing repeatedly what is written on the board or slides and presented in handouts;	P1	P1	P1	P1	P1						
	P2	P2	P2	P2	P2						
	P3	P3	P3	P3	P3						
	P4	P5	P4	P5	P5						
	P5		P5								
	P6										
4.2.9 Pacing the presentation of course materials or allowing extra time for students with VI in course activities that need to refer to a textbook or handout;	P1	P1	P1	P1	P1						
	P2	P2	P2	P2	P2						
	P3	P3	P3	P3	P3						
	P5	P5	P4	P5	P5						
	P6		P5								
4.2.10 Applying collaborative teaching and cooperative learning;	P1	P1	P1	P1	P1						
	P3	P2	P2	P2	P2						
	P5	P3	P3	P3	P3						
	P6	P5	P4	P5	P5						
			P5								
4.2.11 Asking for a sighted volunteer student to team up with a visually impaired student for group works and in-class assignments;	P1	P1	P1	P1	P1						Human
	P2	P2	P2	P2	P2						resources (P2);
	P3	P3	P3	P3	P3						
	P5	P5	P4	P5	P5						
	P6		P5								

4.2.12 Making arrangements (e.g., transportation, guide and site accessibility) early for fieldtrips;	P1	P1	P1	P1	P1						Financial and human resources (P2 & P3);
	P2	P2	P2	P2	P2						
	P3	P3	P3	P3	P3						
	P5	P5	P4	P5	P5						
	P6		P5								
4.3 Adapting and making reasonable adjustments to examination and other assessment tasks through:	P5	P3	P1	P2	P2						Financial resources (P2);
4.3.1 Accessing examination and other assessment tools to students with VI in alternative formats, such as in tactile/Braille and audio-taped format or using a personal computer with voice synthesizer or a note-taker and reader;		P5	P2	P3	P3						Human/assistants and material resources (P3);
			P3	P5	P5						Personal computers (P4);
			P4								
			P5								
			P6								
4.3.2 Showing flexibility with deadlines of assignments that need document conversion process, such as CD, Braille and electronic printing;	P5	P1	P1	P1	P1						Financial resources (P2);
	P6	P2	P2	P2	P2						
		P3	P3	P3	P3						
		P5	P4	P5	P5						
			P5								
4.3.3 Allowing students with VI double time for examination, test and quiz;	P5	P1	P1	P1	P1						Financial resources (P2);
	P6	P2	P2	P2	P2						Financial resources (P3);
		P3	P3	P3	P3						
		P5	P4	P5	P5						
			P5								

	4.3.4 Minimizing assessment issues like stress or frustration by presenting oral examination instead of written one or short-answer instead of multiple-choice and matching questions;	P5 P6  P3 P5	P1 P2  P3 P4  P5	P1 P2  P3 P4  P5	P1 P2  P3 P5						Financial and human resources (P2);
	4.3.5 Reviewing regularly the assessment arrangements of the university in consultation with students with VI to ensure the attainment of both students' needs and stated course objectives.	P5 P6  P3 P5  P6  P6	P1 P2  P3 P4  P5  P6	P1 P2  P3 P4  P5  P6	P1 P2  P3 P5						Financial and human resources (P2);
5 Provision of human, physical and financial resources	5 Accessing adequate and relevant resources for maximal support of students with VI to achieve full academic and social inclusion in University A:  5.1 Accessing human resources through:  5.1.1 Assigning knowledgeable and adequate experts into the disability centre to support the inclusive learning of students with VI;	P1 P2 P3 P5	P3	P3 P4 P6	P1 P3	P3					Financial and human resources (P2, P3);
	5.1.2 Deploying specialist staff who regularly support students with VI and their staff at department level;	P1 P2 P3 P5	P1 P2 P3 P5	P3 P4 P5 P6	P3 P5 P3	P1					Financial and human resources (P2, P3);

5.1.3 Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life skills;	P1 P2 P3 P5 P6	P1 P2 P3 P4	P1 P2 P3	P1 P2 P3	P1 P2 P3						Financial and human resources (P2, P3);
5.1.4 Providing opportunities for students with VI to have personal assistants based on their needs;	P5 P3 P5 P5 P6	P2 P3 P4	P2 P3 P4 P5 P6	P2 P3 P5 P5	P1 P2 P3 P5						Financial and human resources (P2,P3);
5.1.5 Allowing students with VI to hire their own personal assistants or tutors by using the budget allocated from the university;	P5 P3 P5 P5 P6	P2 P3 P4	P2 P3 P4 P5 P6	P2 P3 P5 P6	P2 P3 P5						Financial and human resources (P2);
5.1.6 Assigning faculty and department leaders in light of their commitment and capacity for responding to learner diversity;	P1 P2 P3 P5	P3 P4 P5	P3 P4 P5 P6	P1 P3 P5 P6	P3						Financial and human resources (P2);
5.1.7 Arranging regularly the teamwork and collaboration between the lecturers of students with VI and professionals of special needs education from departmental or institution-wide staff to advance the inclusion of students with VI in University A;	P1 P2 P3 P5	P2 P3 P5	P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5						Financial resources (P2);

					P6							
5.1.8 Collaborating with disability-related associations, NGOs, and other relevant institutions to enhance inclusive services for students with VI;	P1 P2 P3 P5	P3	P3 P4	P1 P6	-							Financial resources (P2);
5.1.9 Accessing staff development programs to address the human resource shortage and knowledge gaps in achieving the inclusive learning goals in University A by: 5.1.9.1 Providing general orientation and introduction to all service providers, including lecturers, management and peers on how to deal with academic and non-academic needs of visually impaired learners within the inclusive environment of University A;	P1 P2 P3 P5 P6	P3	P3 P4	P3 P3	P1 P3							Financial and human resources (P2);  Financial resources (P3);
5.1.9.2 Providing all academic staff short term training on the basic principles of inclusive education to remove their knowledge deficiency and negative disposition towards the inclusion of students with VI;	P5  P6	P2 P5 P6	P3 P4 P5	P3 P5 P5	P1 P3 P5							Financial and human resources (P2);
5.1.9.3 Implementing either pre-service or in-service teacher training to build the capacity of lecturers of students with VI regarding inclusive educational policies and practices in higher education;	P5   P6	P2 P5	P3 P4 P5 P6	P3 P5  P5	P1 P3 P5							
5.1.9.4 Designing continuous professional development program for the academic staff on inclusive support systems, curricular modification and	P1 P2	P3 P5	P3 P4	P5 P6	P5							Financial and human resources (P2);

	adaptation of instructional and assessment strategies as well as on how to use assistive technologies to meet the special needs of students with VI;	P3 P5		P5							
	5.1.9.5 Providing special training to students with VI on how to write and read on Braille to ease their communication;	P1 P2 P3 P5	P2 P3	P3 P4	P3 P6	P1 P3					Financial and human resources (P2);  Material and financial resources (P3);
	5.1.9.6 Devising better incentive mechanisms, such as academic promotion opportunities or annual appraisals to encourage staffs who serve students with VI after completing the continuous professional development program or training on inclusive education;	P1 P2 P3 P5	P3	P3 P4	P3 P6	P1 P3					Financial resources (P2);
	5.2 Accessing physical resources with no barriers to learning and living in University A through: 5.2.1 Auditing regularly the physical environment by trained auditors in consultation with students with VI and disability support staff to identify the barriers for accessibility;	P1 P2 P3 P5 P6	P2 P3 P5	P2 P3 P4 P5	P2 P3 P5	P1 P2 P3 P5					Financial resources (P3);
	5.2.2 Updating the design standards of physical resources in favour of students with VI;	P1 P2 P3 P5	P3 P5 P6	P3 P4 P5	P3 P5	P1 P3 P5					Financial resources (P2);

5.2.3 Establishing friendly and accessible physical environment, including buildings, play grounds, landscaping, car parking, routes of travel and sanitation rooms and facilities for the accommodation of students with VI;	P5	P3 P5	P3 P4 P5 P6	P3 P5	P3 P5						Financial resources  (P2, P3);
5.2.4 Re-adjusting the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible for students with VI;	P1 P2 P3 P5	P3 P5 P6	P3 P4 P5	P3 P5	P1 P3 P5						Financial resources  (P2, P3);
5.2.5 Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when re-adjustment is impossible;	P1 P2 P3 P5	P1 P3 P5	P1 P3 P4 P5	P1 P3 P5 P6	P1 P3 P5						Financial resources  (P2, P3);
5.2.6 Building ramps to ease access for the students with VI;	P1 P2 P3 P5	P1 P3 P5	P3 P4 P5 P6	P3	P3						Financial resources  (P2, P3);
5.2.7 Making available campus signs and maps in tactile format;	P1 P2 P3 P5	P1 P3 P5	P3 P4 P5 P6	P3	P3						Financial resources (P2);  Material resources (P3);
5.2.8 Providing consistent orientation and mobility training to locate the buildings and rooms without assistance;	P1	P2	P2	P2	P1						Financial and human

		P2 P3 P5 P6	P3 P5	P3 P4 P5	P3 P5	P2 P3 P5						resources (P2);
	5.2.9 Setting out standards on how adaptive materials and technologies should be accessible to students with VI;	P1 P2 P3 P5 P6	P2 P3 P5	P4	-	P1						Physical and financial resources (P2);
	5.2.10 Providing students with VI a variety of adapted educational materials, such as brailled literature, embossed and recorded curricular materials, reading and writing tools;	P1 P2 P3 P5	P2 P3 P5 P6	P2 P3 P4 P5	P2 P3 P5	P1 P2 P3 P5						Financial resources (P2);  Material and financial resources (P3);
	5.2.11 Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen reader, speech synthesizers, Braille transcribers and e-books or e-resources;	P1 P2 P3 P5	P2 P3 P5	P2 P3 P4 P5 P6	P2 P3 P5	P2 P3 P5						Financial resources (P2);  Material and financial resources (P3);
	5.2.12 Organizing libraries, laboratories and computer centres with adapted equipment and technologies to serve students with VI;	P1 P2 P3 P5	P2 P3 P5	P3 P4 P5 P6	P3	P1 P3						Financial resources (P2);  Material resources (P3);



5.2.13 Arranging computers with appropriate software especially for female students with VI in their dormitories in order to protect them from any form of sexual harassment;	P1	P2	P3	P3	P1						Experts, fund (P1);
	P2	P3	P4	P5	P3						Financial resources (P2);
	P3	P5	P5		P5						Material resources (P3);
	P5		P6								
5.2.14 Offering training to students with VI and their lecturers on how to use the adapted materials and ICT;	P1	P2	P3	P3	P3						Trainer and material
	P2	P3	P4	P5	P5						resources (P1);
	P3	P5	P5								Financial and human
	P5		P6								resources (P2);
5.2.15 Taking into account the safety and security of students with VI when arranging seats and facilities in the classroom, libraries, laboratories and computer rooms;	P1	P1	P2	P2	P2						Financial and physical
	P2	P2	P3	P3	P3						resources (P2);
	P3	P3	P4	P5	P5						
	P5	P5	P5								
5.3 Accessing adequate financial resources for additional needs of students with VI by: 5.3.1 Examining the existing funding system based on the principle of equalization of opportunities for students with VI;	P1	P2	P2	P2	P2						Financial resources (P2, P3);
	P2	P3	P3	P3	P3						
	P3	P5	P4	P5	P5						
	P5		P5								
5.3.2 Allocating budget ear markedly for faculties and departments to address budget-related challenges of students with VI;	P1	P2	P3	P3	P3						Financial resources (P2, P3);
	P2	P3	P4								
	P3	P6									
	P5										

5.3.3 Establishing external funding streams with partners to make good use of external financial resources;	P5	P3	P3 P4 P6	P3	P1 P3						Financial resources (P2);
5.3.4 Offering additional fund through disability student allowance scheme to buy adaptive materials and technologies as well as to pay for their maintenance and consumables;	P5	P2 P3 P5	P3 P4 P5	P3 P5 P6	P1 P3 P5						Financial resources (P2, P3);
5.3.5 Allocating adequate budget regularly for students with VI to hire personal assistances, such as readers of written materials and examinations;	P1 P2 P3 P5	P2 P3	P2 P3 P4	P2 P3 P6	P1 P2 P3						Financial resources (P2, P3);
5.3.6 Allowing students with VI to manage their personal budget allocated through the students' funding program;	P5	P2 P3 P5	P3 P4 P5	P3 P5 P6	P3 P5						Financial resources (P2);
5.3.7 Devising additional payment system or incentive mechanism to academic staffs and implementing accordingly for the extra time they used to provide special support to students with VI in terms of accessing their teaching materials and modes of assessment in alternative formats.	P1 P2 P3 P5	P2 P3	P3 P4	P3 P6	P1 P3						Fund (P1);  Financial resources (P2, P3);

Name: \_\_\_\_\_ Signature \_\_\_\_\_

Date \_\_\_\_\_

Thank you for participating in this questionnaire.

If you have a need to contact me afterwards, my contact details are the following: tele no. 251 11 06812034 or 251 930098132,

Email: [teferiadnew@yahoo.com](mailto:teferiadnew@yahoo.com)

## APPENDIX 11: RESPONSES OF DELPHI PARTICIPANTS TO THE SECOND ROUND QUESTIONNAIRE

The responses of Delphi participants for the second round Delphi questionnaire are presented in the following table:

Support categories/ themes	Support measures	Respondents of first round questionnaire					Respondents of second round questionnaire					Resources (human, Physical and financial resources) needed
		Implementation Year					Implementation Year					
		1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	
1. Policy- related support measures	1. Developing and implementing enabling polices and legislations for the full inclusion of students with VI in University A:  1.1 Reviewing the existing university`s policies and legislations in accordance to international and local legal frameworks accepted by Ethiopian government to ensure the rights and equal opportunities of students with VI in all aspects of inclusive provision;	P1  P2  P3  P4  P5  P6					P1  P2  P3  P4  P5  P6					Assistants (2),  relevant documents.  Stationeries, office(P1);  Financial resources (P2);  Human. material and  Financial resources (P3);  Experts (P4);  Human resource(P5);  Human and financial resources and  Commitment of high-level officials (P6);

1.2 Setting out a clearly articulated set of policy standards and tools in line with social model of disability and associated theoretical frameworks on which the inclusion of students with VI can be based;	P1	P6				P1	-					Commitment of higher level officials (P6);
	P2					P2						
	P3					P3						
	P4					P4						
1.3 Making available proactive and binding institutional policy frameworks which enable students with VI to get additional support and make adjustments on the provision of curriculum, instructional and assessment strategies, as well as human, physical and financial resources to meet their special needs;	P5					P5						Public relation (P1);  Financial resources (P2);  Human. material and financial resources (P3);  Human and financial resource(P5);
	P1	P5	P5	P5	P5	P1	-	-	-	-		
	P2		P6			P2		-				
	P3					P3						
1.4 Informing regularly everything that has been included into the policies and legislations of the university to students with VI and other university community;	P4					P4						Financial and human resources (P2); Human. material and financial resources (P3);
	P5					P5						
	P6					P6						
	P1	P5	P5	P5	P5	P1	P5	P5	-	-		
1.5 Auditing and reviewing the impacts of existing policies and legislations at the end of every operational year and make changes resulting from such evaluation in collaboration with students with VI;	P2	P6	P6	P6	P6	P2	P6	P6	P6	P6		Financial and human resources (P2, P3);
	P3					P3						
	P4					P4						
	P5					P5						
1.5 Auditing and reviewing the impacts of existing policies and legislations at the end of every operational year and make changes resulting from such evaluation in collaboration with students with VI;	P6					P6						Financial and human resources (P2, P3);
	P1	P3	P3	P3	P3	P5	P1	P3	P3	P3		
	P2	P4	P5	P5	P5	P6	P2	P4	-	-		
	P3	P5					P3	P5	P6	P6		
1.5 Auditing and reviewing the impacts of existing policies and legislations at the end of every operational year and make changes resulting from such evaluation in collaboration with students with VI;	P5						P4	P6				Financial and human resources (P2, P3);
	P6						P5					

								P6				
2 Admission-related support measures	2. Providing information and priority to students with VI when making decision on their choice of fields of study in University A:	P1	P4	P5	P5	P5	P1	-	-	-	-	Financial and human resources (P2);
	1.6 Setting clear, flexible and supportive entry criteria to assign students with VI into different fields of study based on their personal preferences;	P2	P5				P2	-				Human resources (P4);
		P3					P3					
		P5					P4					
		P6					P5					
							P6					
	1.7 Providing information to students with VI in alternative formats on matters of program specifications and support services and resources available in the institution, faculties, and departments prior to applying for the particular field of study;	P2	P1	P1	P1	P1	P2	P1	P1	P1	P1	Financial and human resources (P2);
		P5	P2	P2	P2	P2	P5	P2	P2	P2	P2	Material resources (P3);
			P3	P3	P3	P3		P3	P3	P3	P3	Adaptive material resources (P4);
			P4	P4	P4	P4		P4	P4	P4	P4	
			P5	P5	P5	P5		P5	P5	P5	P5	
			P6					P6	P6	P6	P6	
	1.8 Providing guidance and counselling services to students with VI on admission-related issues in order to make a conscious or informed choice about their fields of study;	P5	P1	P1	P1	P1	P5	P1	P1	P1	P1	Financial and human resources (P2);
		P6	P2	P2	P2	P2	P6	P2	P2	P2	P2	Professional carrier counsellor (P3);
			P3	P3	P3	P3		P3	P3	P3	P3	Human resources (P4);
			P4	P4	P4	P4		P4	P4	P4	P4	
			P5	P5	P5	P5		P5	P5	P5	P5	
								P6	P6	P6	P6	

	1.9 Allowing students with VI to be admitted into different departments based on their choice regardless of assuming that they are incapable because of their impairment;	P5	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5 P6	P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Human resources (P2); Orientation provider (P3, P4);
	1.10 Giving priority to students with VI when they compete with their sighted counterparts to join the departments on the basis of their academic results;	P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	- P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Human resources (P2);
3. Access to additional support services	3.Accessing support services and accommodations for students with VI to achieve their active participation and full inclusion in the university life and education:  3.1 Accessing emotional and social support through:  3.1.1 Providing students with VI varying levels of additional guidance and counselling services that enable them actively and fully involved in the broader academic and socio-cultural arenas of University A by resourcing the disability centre and departments with specialist experts;	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Physical, financial and Human resources (P2); Experts of special needs education in all colleges (P3); Human resources or professional guidance and counselling (P4); Financial and human resources with commitment (P6);

3.1.2	Allowing students with VI to arrive a week earlier and gain orientation and mobility training from specialist experts of the disability centre on how to locate various rooms and buildings of the university;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Human resources (P2);
		P2	P2	P2	P3	P3	P2	P2	P2	P3	P3	Human and material
		P3	P3	P3	P4	P4	P3	P3	P3	P4	P4	Resources, e.g., campus
3.1.3	Assigning students with VI in dormitories together with sighted peers to promote diverse social interactions;	P5	P4	P4	P5	P5	P4	P4	P4	P5	P5	mapon Braille (P3);
		P6	P5	P5			P5	P5	P5	P6	P6	Experts on mobility training
							P6	P6	P6			and white canes (P4); Officials with awareness and commitment (P6);
3.1.4	Establishing values that appreciate the full participation of students with VI into socio-cultural activities as equal part of university community;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Physical and human
		P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	resources (P2);
		P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	Human resources who
		P4	P4	P4	P4	P4	P4	P4	P4	P4	P4	Provide awareness on
		P5	P5	P5	P5	P5	P5	P5	P5	P5	P5	social integration (P3);
		P6					P6	P6	P6	P6	P6	Temporary peer-mentors (P4);
		P5	P1	P3	P3	P3	P5	P1	P3	P3	P3	Human resources (P2);
		P6	P2	P5	P5	P5	-	P2	P5	P5	P5	Human resources who
			P3					P3				provide
			P4					P4				awareness on social
			P5					P5				integration (P3);
								P6				Officials with awareness and commitment (P6);

3.1.5	Providing special opportunity to students with VI for creating social contact with the university staff who have visual impairment;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Human resources (P2);
		P2	P2	P3	P3	P3	P2	P2	P3	P3	P3	
		P3	P3	P5	P5	P5	P3	P3	P4	P4	P4	
		P4	P4				P4	P4	P5	P5	P5	
3.1.6	Interacting with students with VI respectfully in class and extra-curricular activities of the university;	P5	P5				P5	P5	P6	P6	P6	Human resources (P2);
		P6					P6	P6				
		P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	
		P2	P2	P3	P3	P3	P2	P2	P3	P3	P3	
3.1.7	Involving students with VI in recreational activities together with sighted peers;	P3	P3	P5	P5	P5	P3	P3	P4	P4	P4	Human resources (P2); Adapted material resources (P3); Physical resources (P6)
		P5	P4				P4	P4	P5	P5	P5	
		P6	P5				P5	P5	P6	P6	P6	
							P6	P6				
3.1.8	Involving students with VI, including females, in Blind Sports, including Para Olympic Games, when necessary.	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Financial and human resources (P2); Financial and adapted material resources (P3); Sport materials suitable to
		P2	P2	P2	P2	P3	P2	P2	P2	P2	P3	
		P3	P3	P3	P3	P5	P3	P3	P3	P3	P4	
		P5	P4	P5	P5		P4	P4	P4	P4	P5	
3.1.8	Involving students with VI, including females, in Blind Sports, including Para Olympic Games, when necessary.	P6	P5				P5	P5	P5	P5	P6	Financial and human resources (P2); Financial and adapted material resources (P3); Sport materials suitable to
							P6	P6	P6	P6		
		P5	P1	P1	P1	P1	-	P1	P1	P1	P1	
		P2	P2	P2	P2	P3		P2	P2	P2	P3	
3.1.8	Involving students with VI, including females, in Blind Sports, including Para Olympic Games, when necessary.	P3	P3	P3	P3	P5		P3	P3	P3	P4	Financial and human resources (P2); Financial and adapted material resources (P3); Sport materials suitable to
		P4	P5	P5	P5	P6		P4	P4	P4	P5	
		P5						P5	P5	P5	P6	



								P6	P6	P6		Visually impaired people P4);
3.2 Accessing academic support through:	P1	P1	P3	P3	P3	P1	P1	P1	P3	P3	P3	Financial and human
3.2.1 Resourcing the disability centre and departments with specialist experts, including those who have visual impairment, and providing technical support to students with VI and their lecturers in adapting the educational materials and facilities;	P2	P2	P5	P5	P5	P2	P2	P2	P5	P5	P5	resources (P2);
	P3	P3				P3	P3	P3				Human resources (P3, P4);
	P4	P4				P4	P4	P4				
	P5	P5				P5	P5	P5				
	P6					P6	P6	P6				
3.2.2 Accessing specialist support to students with VI from the professionals of visual impairment and inclusive education or special needs education available in different departments;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Financial and human
	P2	P2	P2	P2	P3	P2	P2	P2	P2	P2	P3	resources (P2);
	P3	P3	P3	P3	P5	P3	P3	P3	P3	P3	P4	Human or professional
	P5	P4	P5	P5		P4	P4	P4	P4	P4	P5	resources (P3, P4);
	P6	P5				P5	P5	P5	P5	P5	P6	
						P6	P6	P6	P6	P6		
3.2.3 Accessing general academic support to students with VI from their lecturers and academic leaders;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Financial and human
	P2	P2	P2	P2	P3	P2	P2	P2	P2	P2	P3	resources (P2);
	P3	P3	P3	P3	P5	P3	P3	P3	P3	P3	P4	Human resources (P4);
	P5	P4	P5	P5	P6	P4	P4	P4	P4	P4	P5	
	P6	P5	P6	P6		P5	P5	P5	P5	P5	P6	
		P6				P6	P6	P6	P6	P6		
3.2.4 Accessing personal tutor/mentor support or peer-mentoring service, including mobility assistance, reader, note-taker and materials-adapter;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Financial and human
	P2	P2	P2	P2	P3	P2	P2	P2	P2	P2	P3	resources (P2);
	P3	P3	P3	P3	P5	P3	P3	P3	P3	P3	P4	Human. material and

		P5 P6	P4 P5	P5	P5		P4 P5 P6	P4 P5 P6	P4 P5 P6	P4 P5 P6	P5 P6	financial resources (P3); Human resources (P4);
	3.2.5 Accessing technical support from all service providers, including IT technicians, laboratory and library assistants in the university;	P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5	P1 P3 P5	- -    	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P3 P4 P5 P6	Financial and human resources (P2); Human resources (P3, P4);
	3.2.6 Accessing additional support from other institutions and voluntary agencies (e.g., Ethiopian Association for the Blind);	P5	P1 P2 P3 P4 P5 P6	P2 P3 P5	P2 P3 P5	P1 P2 P3 P5	-     	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Financial and human resources (P2); Human resources (P4);
4.Adaptation of curriculum, instructional strategies and assessment tools	4.Adapting the curricula, instructional strategies and assessments in order to meet the varied needs of students with VI in University A:  4.1 Access to curricular adaptation/differentiation through: 4.1.1 Making regular discussions with students with VI to determine curricular modifications for their specific needs;	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6	P1 P2 P3 P4 P6	P2 P3 P6	P3 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P6	P2 P3 P4 P6	P3 P6	Financial and human resources (P2, P6);

<p><b>4.1.2</b> Adapting the curriculum materials, such as syllabus, module, course outline, lecture-notes, handouts, worksheets and assignments to students with VI in their preferred formats;</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P1 1 P2 P3 P5 3 6</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>4</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>5</p> <p>P</p> <p>P</p> <p>P</p>	<p>P1 1 P2 P3 P4 3 P5 P6 5</p>	<p>P1</p> <p>P3</p> <p>P4</p> <p>P5</p> <p>P6</p>	<p>P3</p> <p>P4</p> <p>P5</p> <p>P6</p>	<p>P1</p> <p>P3</p> <p>P4</p> <p>P5</p> <p>P6</p>	<p>Financial and human resources (P2);</p> <p>Human resources (P4);</p>
<p><b>4.1.3</b> Adapting the curriculum content and delivery according to the learning pace and styles of students with VI;</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P1 P2 P3 P5 P6</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P1</p> <p>P2</p> <p>P3</p> <p>P4</p> <p>P5</p> <p>P6</p>	<p>P1</p> <p>P3</p> <p>P4</p> <p>P5</p> <p>P6</p>	<p>P1</p> <p>P3</p> <p>P4</p> <p>P5</p> <p>P6</p>	<p>P1</p> <p>P3</p> <p>P4</p> <p>P5</p> <p>P6</p>	<p>Financial and human resources (P2);</p> <p>Human resources (P4);</p>
<p><b>4.1.4</b> Providing references in alternative formats for students with VI and allowing them to write a senior essay for graduation;</p>	<p>P</p> <p>P</p> <p>P</p>	<p>P1 P2 P3 P5</p>	<p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P</p> <p>P</p> <p>P</p> <p>P</p> <p>P</p>	<p>P1</p> <p>P2</p> <p>P3</p> <p>P4</p> <p>P5</p>	<p>P1</p> <p>P2</p> <p>P3</p> <p>P4</p> <p>P5</p>	<p>P1</p> <p>P2</p> <p>P3</p> <p>P4</p> <p>P5</p>	<p>P1</p> <p>P2</p> <p>P3</p> <p>P4</p> <p>P5</p>	<p>Financial resources (P2);</p> <p>Material resources/soft copies (P3);</p> <p>Human resources (P4);</p>

		P		P	P 4	P	P 5	P6 4	P6	P6	P6	
				P			P					
				P	6		P	6				
4.2 Adapting instructional strategies for students with VI through: 4.2.1 Increasing the awareness and skills of academic staff and adapting the instructional strategies in favour of students with VI;	P	P1	P	P	P	P	P	P1	P1	P3	P3	Financial and human
		P2						P2	P3	-	-	resources (P2);
	P	P3	P	P	P	P	P	P3	P4			Human/professionals and
	P	P5	P				P	P4	P5			financial resources (P3);
	P		P				P	P5	P6			Human resources (P4);
	P						P	P6				
							P					
							P					
4.2.2 Enhancing the accessibility of each course instruction and activity to students with VI through modifying the classroom organization or laboratory setup in the way that suits students with VI;	P1	P1	P1	P3	P3	P1	P1	P1	P1	P3	P3	Financial and human
	P2	P2	P3	P5	P5	P2	P2	P3	P4	P4	P4	resources (P2);
	P3	P3	P4			P3	P3	P4	P5	P5	P5	Human. adapted material
	P5	P5	P5			P4	P4	P5	P6	P6	P6	and financial resources
		P6				P5	P5	P6				(P3, P4);
						P6	P6					
4.2.3 Adjusting the instructional processes in line with the learning interests, styles and rates of students with VI;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Financial and human
	P2	P2	P2	P2	P3	P2	P2	P2	P2	P2	P3	resources (P2);
	P3	P3	P3	P3	P5	P3	P3	P3	P3	P3	P4	Human resources (P4);
	P5	P5	P4	P5		P4	P4	P4	P4	P4	P5	

				P5 P6			P5 P6	P5 P6	P5 P6	P5 P6	P6	
4.2.4 Keeping a front row seat open for students with VI to easily identify their seats and listen the explanation of lecturers;	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6		
4.2.5 Making available copies of syllabi, handouts and assignments two or three weeks prior to the beginning of classes for recording or Braille transcription;	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Financial resources (P2);  Material resources (P3);	
4.2.6 Providing students with VI the instructional materials in alternative formats, such as recorded, brailed, embossed, and other audio and tactile formats at the same time when given to the sighted peers;	P1 P2 P3 P5 P6	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Financial resources (P2);  Adapted material resources (P3);	
4.2.7 Allowing students with VI to record lectures;	P1 P2 P3	P1 P2 P3	P1 P2 P3	P1 P2 P3	P1 P2 P3	P1 P2 P3	P1 P2 P3	P1 P2 P3	P1 P2 P3	P1 P2 P3	Financial resources (P2);	

		P5 P6	P5	P4 P5	P5	P5	P4 P5 P6	P4 P5 P6	P4 P5 P6	P4 P5 P6	
	4.2.8 Verbalizing repeatedly what is written on the board or slides and presented in handouts;	P1 P2 P3 P4 P5 P6	P1 P2 P3 P5	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	
	4.2.9 Pacing the presentation of course materials or allowing extra time for students with VI in course activities that need to refer to a textbook or handout;	P1 P2 P3 P5 P6	P1 P2 P3 P5	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	
	4.2.10 Applying collaborative teaching and cooperative learning;	P1 P3 P5 P6	P1 P2 P3 P5	P1 P2 P3 P4 P5	P1 P2 P3 P5	P1 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	
	4.2.11 Asking for a sighted volunteer student to team up with a visually impaired student for group works and in-class assignments;	P1 P2	P1 P2	P1 P2	P1 P2	P1 P2	P1 P2	P1 P2	P1 P2	P1 P2	Human resources (P2);

		P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	
		P5	P5	P4	P5	P5	P4	P4	P4	P4	P4	
		P6		P5			P5	P5	P5	P5	P5	
						P6	P6	P6	P6	P6	P6	
	4.2.12 Making arrangements (e.g., transportation, guide and site accessibility) early for fieldtrips;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Financial and human resources (P2 &P3);
		P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	
		P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	
		P5	P5	P4	P5	P5	P4	P4	P4	P4	P4	
		P6		P5			P5	P5	P5	P5	P5	
						P6	P6	P6	P6	P6	P6	
	4.3 Adapting and making reasonable adjustments to examination and other assessment tasks through: 4.3.1 Accessing examination and other assessment tools to students with VI in alternative formats, such as in tactile/Braille and audio-taped format or using a personal computer with voice synthesizer or a note-taker and reader;	P5	P3	P1	P2	P2	P5	P3	P1	P2	P2	Financial resources (P2); Human/assistants and material resources (P3); Personal computers (P4);
			P5	P2	P3	P3		P5	P2	P3	P3	
				P3	P5	P5			P3	P4	P4	
				P4					P4	P5	P5	
				P5					P5	P6	P6	
				P6					P6			
	4.3.2 Showing flexibility with deadlines of assignments that need document conversion process, such as CD, Braille and electronic printing;	P5	P1	P1	P1	P1	P5	P1	P1	P1	P1	Financial resources (P2);
		P6	P2	P2	P2	P2	P6	P2	P2	P2	P2	
			P3	P3	P3	P3		P3	P3	P3	P3	
			P5	P4	P5	P5		P4	P4	P4	P4	
				P5				P5	P5	P5	P5	
							P6	P6	P6	P6	P6	

	4.3.3 Allowing students with VI double time for examination, test and quiz;	P5	P1	P1	P1	P1	P5	P1	P1	P1	P1	Financial resources (P2);
		P6	P2	P2	P2	P2	-	P2	P2	P2	P2	Financial resources (P3);
			P3	P3	P3	P3		P3	P3	P3	P3	
			P5	P4	P5	P5		P4	P4	P4	P4	
				P5				P5	P5	P5	P5	
								P6	P6	P6	P6	
	4.3.4 Minimizing assessment issues like stress or frustration by presenting oral examination instead of written one or short-answer instead of multiple-choice and matching questions;	P5	P1	P1	P1	P1	P5	P1	P1	P1	P1	Financial and human
		P6	P2	P2	P2	P2	-	P2	P2	P2	P2	resources (P2);
			P3	P3	P3	P3		P3	P3	P3	P3	
			P5	P4	P5	P5		P4	P4	P4	P4	
				P5				P5	P5	P5	P5	
								P6	P6	P6	P6	
	4.3.5 Reviewing regularly the assessment arrangements of the university in consultation with students with VI to ensure the attainment of both students' needs and stated course objectives.	P5	P1	P1	P1	P1	-	P1	P1	P1	P1	Financial and human
		P6	P2	P2	P2	P2	-	P2	P2	P2	P2	resources (P2);
			P3	P3	P3	P3		P3	P3	P3	P3	
			P5	P4	P5	P5		P4	P4	P4	P4	
			P6	P5	P6	P6		P5	P5	P5	P5	
				P6				P6	P6	P6	P6	
5. Provision of human, physical and financial resources	5.Accessing adequate and relevant resources for maximal support of students with VI to achieve full academic and social inclusion in University A:  5.1 Accessing human resources through:Assigning knowledgeable and adequate experts into the disability centre to support the inclusive learning of students with VI;	P1	P3	P3	P1	P3	P1	P3	P3	P1	P3	Financial and human
		P2		P4	P3		P2		-	P3		resources (P2, P3);
		P3		P6			P3		-			
		P5					P4					
							P5					
							P6					



5.1.1 Deploying specialist staff who regularly support students with VI and their staff at department level;	P1	P1	P3	P3	P1	P1	P1	P3	P3	P1	Financial and human resources (P2, P3);
	P2	P2	P4	P5	P3	P2	P2	P4	-	P3	
	P3	P3	P5			P3	P3	P5			
	P5	P5	P6			P4	P4	P6			
5.1.2 Assigning paraprofessionals (peer-tutors or mentors) to assist students with VI to learn and develop life skills;	P1	P1	P1	P1	P1	P1	P1	P1	P1	P1	Financial and human resources (P2, P3);
	P2	P2	P2	P2	P2	P2	P2	P2	P2	P2	
	P3	P3	P3	P3	P3	P3	P3	P3	P3	P3	
	P5	P5	P4			P4	P4	P4	P4	P4	
5.1.3 Providing opportunities for students with VI to have personal assistants based on their needs;	P5	P2	P2	P2	P1	-	P2	P2	P2	P1	Financial and human resources (P2,P3);
		P3	P3	P3	P2		P3	P3	P3	P2	
		P5	P4	P5	P3		P4	P4	P4	P3	
			P5		P5		P5	P5	P5	P4	
5.1.4 Allowing students with VI to hire their own personal assistants or tutors by using the budget allocated from the university;	P5	P2	P2	P2	P2	-	P2	P2	P2	P2	Financial and human resources (P2);
		P3	P3	P3	P3		P3	P3	P3	P3	
		P5	P4	P5	P5		P4	P4	P4	P4	
			P5	P6			P5	P5	P5	P5	
							P6	P6	P6	P6	

5.1.5 Assigning faculty and department leaders in light of their commitment and capacity for responding to learner diversity;	P1 P2 P3 P5	P3	P3 P4 P5 P6	P1 P3 P5 P6	P3	P1 P2 P3 P4 P5 P6	P3	P3 -	P1 P3 P4 P5 P6	P3	Financial and human resources (P2);
5.1.6 Arranging regularly the teamwork and collaboration between the lecturers of students with VI and professionals of special needs education from departmental or institution-wide staff to advance the inclusion of students with VI in University A;	P1 P2 P3 P5	P2 P3 P5	P2 P3 P4 P5 P6	P1 P2 P3 P5 P6	P1	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Financial resources (P2);
5.1.7 Collaborating with disability-related associations, NGOs, and other relevant institutions to enhance inclusive services for students with VI;	P1 P2 P3 P5	P3	P3 P4	P1 P6		P1 P2 P3 P4 P5 P6	P3	P3 -	P1 -		Financial resources (P2);
5.1.8 Accessing staff development programs to address the human resource shortage and knowledge gaps in achieving the inclusive learning goals in University A by: 5.1.8.1 Providing general orientation and introduction to all service providers, including lecturers, management and peers on how to deal with academic and non-academic needs of visually impaired learners within the inclusive environment of University A;	P1 P2 P3 P5 P6	P3	P3 P4	P3	P1 P3	P1 P2 P3 P4 P5 P6	P3	P3 -	P3	P1 P3	Financial and human resources (P2);  Financial resources (P3);

5.1.8.2 Providing all academic staff short term training on the basic principles of inclusive education to remove their knowledge deficiency and negative disposition towards the inclusion of students with VI;	P5 P5 P6	P2 P4 P5	P3 P4 P5	P3 P5	P1 P3 P5	-	P2 P4 P5 P6	P3 P4 P5 P6	P3 P4 P5 P6	P1 P3 P4 P5 P6	Financial and human resources (P2);
5.1.8.3 Implementing either pre-service or in-service teacher training to build the capacity of lecturers of students with VI regarding inclusive educational policies and practices in higher education;	P5 P5 P5 P6	P2 P4 P5 P6	P3 P4 P5 P6	P3 P5	P1 P3 P5	-	P2 -	P3 P4 P5 P6	P3 P4 P5 P6	P1 P3 P4 P5 P6	
5.1.8.4 Designing continuous professional development program for the academic staff on inclusive support systems, curricular modification and adaptation of instructional and assessment strategies as well as on how to use assistive technologies to meet the special needs of students with VI;	P1 P2 P3 P5	P3 P5 P5	P3 P4 P5	P5 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P3 - - -	P3 - -	- - -	- -	Financial and human resources (P2);
5.1.8.5 Providing special training to students with VI on how to write and read on Braille to ease their communication;	P1 P2 P3 P5	P2 P3	P3 P4	P3 P6	P1 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3	P3 -	P3 -	P1 P3	Financial and human resources (P2);  Material and financial resources (P3);

5.1.8.6 Devising better incentive mechanisms, such as academic promotion opportunities or annual appraisals to encourage staffs who serve students with VI after completing the continuous professional development program or training on inclusive education;	P1	P3	P3	P3	P1	P1	P3	P3	P3	P1	Financial resources (P2);
	P2		P4	P6	P3	P2		-	-	P3	
	P3					P3					
	P5					P4					
5.2 Accessing physical resources with no barriers to learning and living in University A through: 5.2.1 Auditing regularly the physical environment by trained auditors in consultation with students with VI and disability support staff to identify the barriers for accessibility;	P1	P2	P2	P2	P1	P1	P2	P2	P2	P1	Financial resources (P3);
	P2	P3	P3	P3	P2	P2	P3	P3	P3	P2	
	P3	P5	P4	P5	P3	P3	P4	P4	P4	P3	
	P5		P5		P5	P4	P5	P5	P5	P4	
	P6					P5	P6	P6	P6	P5	
						P6				P6	
5.2.2 Updating the design standards of physical resources in favour of students with VI;	P1	P3	P3	P3	P1	P1	P3	P3	P3	P1	Financial resources (P2);
	P2	P5	P4	P5	P3	P2	P4	P4	P4	P3	
	P3	P6	P5		P5	P3	P5	P5	P5	P4	
	P5					P4	P6	P6	P6	P5	
						P5				P6	
5.2.3 Establishing friendly and accessible physical environment, including buildings, play grounds, landscaping, car parking, routes of travel and sanitation rooms and facilities for the accommodation of students with VI;	P5	P3	P3	P3	P3	P5	P3	P3	P3	P3	Financial resources (P2, P3);
		P5	P4	P5	P5		P5	P4	P5	P5	
			P5					P5			
			P6					P6			

5.2.4 Re-adjusting the key access features, such as the rooms, their facilities and fixtures to make the learning and social spaces accessible for students with VI;	P1 P2 P3 P5	P3 P5 P6	P3 P4 P5	P3 P5	P1 P3 P5 P4 P5 P6	P1 P2 P3 P4 P5 P6	P3 P4 P5 P6	P3 P4 P5 P6	P3 P4 P5 P6	Financial resources (P2, P3);
5.2.5 Changing the teaching and living rooms from inaccessible to accessible areas (e.g., from upstairs to first floor) when re-adjustment is impossible;	P1 P2 P3 P5	P1 P3 P5	P1 P3 P4 P5	P1 P3 P5 P6	P1 P3 P5 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P3 P4 P5 P6	P1 P3 P4 P5 P6	P1 P3 P4 P5 P6	Financial resources (P2, P3);
5.2.6 Building ramps to ease access for the students with VI;	P1 P2 P3 P5	P1 P3 P5	P3 P4 P5 P6	P3	P3 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P3 P4 P5 P6	P3 P4 P5 P6	P3	Financial resources (P2, P3);
5.2.7 Making available campus signs and maps in tactile format;	P1 P2 P3 P5	P1 P3 P5	P3 P4 P5 P6	P3	P3 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P1 P3 P4 P5 P6	P3 P4 P5 P6	P3	Financial resources (P2); Material resources (P3);

							P6					
	5.2.8 Providing consistent orientation and mobility training to locate the buildings and rooms without assistance;	P1 P2 P3 P5 P6	P2 P3 P5	P2 P3 P4 P5	P2 P3 P5	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Financial and human resources (P2);
	5.2.9 Setting out standards on how adaptive materials and technologies should be accessible to students with VI;	P1 P2 P3 P5 P6	P2 P3 P5	P4		P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5	-		P1	Physical and financial resources (P2);
	5.2.10 Providing students with VI a variety of adapted educational materials, such as brailled literature, embossed and recorded curricular materials, reading and writing tools;	P1 P2 P3 P5	P2 P3 P5 P6	P2 P3 P4 P5	P2 P3 P5	P1 P2 P3 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	Financial resources (P2); Material and financial resources (P3);
	5.2.11 Accessing Information Communication Technologies (ICT), including computers with appropriate software like JAWS, screen reader, speech synthesizers, Braille transcribers and e-books or e-resources;	P1 P2 P3 P5	P2 P3 P5	P2 P3 P4 P5	P2 P3 P5	P2 P3 P5 P6	P1 P2 P3 P4	P2 P3 P4 P5	P2 P3 P4 P5	P2 P3 P4 P5	P2 P3 P4 P5	Financial resources (P2); Material and financial resources (P3);

				P6			P5 P6	P6	P6	P6	P6	
	5.2.12 Organizing libraries, laboratories and computer centres with adapted equipment and technologies to serve students with VI;	P1 P2 P3 P5	P2 P3 P5	P3 P4 P5 P6	P3	P1 P3	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P3 P4 P5 P6	P3 P3	P1 P3	Financial resources (P2); Material resources (P3);
	5.2.13 Arranging computers with appropriate software especially for female students with VI in their dormitories in order to protect them from any form of sexual harassment;	P1 P2 P3 P5	P2 P3 P5	P3 P4 P5 P6	P3 P5	P1 P3 P5	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P3 P4 P5 P6	P3 P4 P5 P6	P1 P3 P4 P5 P6	Experts, fund (P1); Financial resources (P2); Material resources (P3);
	5.2.14 Offering training to students with VI and their lecturers on how to use the adapted materials and ICT;	P1 P2 P3 P5	P2 P3 P5	P3 P4 P5 P6	P3 P5	P3 P5	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P3 P4 P5 P6	P3 P5	P3 P5	Trainer, material resources (P1); Financial and human resources (P2);
	5.2.15 Taking into account the safety and security of students with VI when arranging seats and facilities in the classroom, libraries, laboratories and computer rooms;	P1 P2 P3	P1 P2 P3	P2 P3 P4 P5	P2 P3 P5	P2 P3 P5	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3 P4 P4	P2 P3 P4	P2 P3 P4	Financial and physical resources (P2);

		P5	P5 P6	P5			P4 P5 P6	P4 P5 P6	P5 P6	P5 P6	
5.3	Accessing adequate financial resources for additional needs of students with VI by: 5.3.1 Examining the existing funding system based on the principle of equalization of opportunities for students with VI;	P1 P2 P3 P5 P6	P2 P3 P5	P2 P3 P4 P5	P2 P3 P5	P2 P3 P5 P4 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5	P2 P3 P4 P5	P2 P3 P4 P5	Financial resources  (P2, P3);
5.3.2	Allocating budget ear markedly for faculties and departments to address budget-related challenges of students with VI;	P1 P2 P3 P5	P2 P3 P6	P3 P4	P3	P3 P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P3 P4 P5 P6	P3 P4 P5 P6	Financial resources  (P2, P3);
5.3.3	Establishing external funding streams with partners to make good use of external financial resources;	P5	P3	P3 P4 P6	P3 P3	P1 P3 -	- P3	P3 P4 P5 P6	P3 P4 P5 P6	P3 P3	Financial resources (P2);
5.3.4	Offering additional fund through disability student allowance scheme to buy adaptive materials and technologies as well as to pay for their maintenance and consumables;	P5	P2 P3 P5	P3 P4 P5	P3 P5 P6	P1 P3 P5 -	- P2 P3 P4 P5	P3 P4 P5 P6	P3 P4 P5 P6	P1 P3 P4 P5	Financial resources  (P2, P3);



								P6			P6	
	5.3.5 Allocating adequate budget regularly for students with VI to hire personal assistances, such as readers of written materials and examinations;	P1 P2 P3 P5	P2 P3	P2 P3 P4	P2 P3 P6	P1 P2 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3 P4 P5 P6	P2 P3 P4 P6	P2 P3 P4 P6	P1 P2 P3 P4 P6	Financial resources (P2, P3);
	5.3.6 Allowing students with VI to manage their personal budget allocated through the students' funding program;	P5  P3 P5	P2  P3 P5	P3 P4 P5	P3 P5 P6	P3 - P5	- P3 P4 P5 P6	P2 P3 P4 P5 P6	P3 P4 P5 P6	P3 P4 P5 P6	P3 P4 P5 P6	Financial resources (P2);
	5.3.7 Devising additional payment system or incentive mechanism to academic staffs and implementing accordingly for the extra time they used to provide special support to students with VI in terms of accessing their teaching materials and modes of assessment in alternative formats.	P1 P2 P3 P5	P2 P3	P3 P4	P3 P6	P1 P3 P3 P4 P5 P6	P1 P2 P3 P4 P5 P6	P2 P3	P3 - -	P3 - -	P1 P3	Fund (P1); Financial resources (P2, P3);

## APPENDIX 12: THE GRAPHIC REPRESENTATION OF DATA FROM DELPHI QUESTIONNAIRES

### Graphic representation of data collected from the first and second round Delphi questionnaires

In this appendix, the results of the first and the final round Delphi questionnaires were presented in line graphs year by year with two options in order to show how two sets of support measures are varied to each other. The first option depicts the responses of participants to the first round Delphi questionnaire to determine the particular implementation year of each support measures in the matrix of a five year timeline. The second option on the other hand demonstrates the revised responses of participants to the second round questionnaire after getting the summary of their responses (as feedback) to the first round questionnaire. Therefore, the researcher eventually represented the responses of Delphi experts to both first and second round questionnaires using line graphs in light of the support measures that have 50 % and more level of consensus of opinion among the participants.

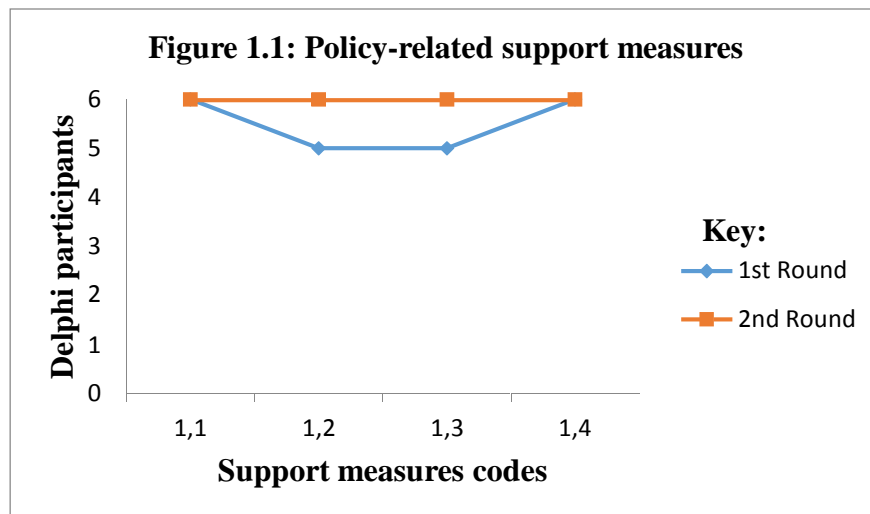
The graphic representations illustrated explicitly the respondents of each item of the first and second Delphi questionnaires side by side according to each support category/theme and its implementation year. Thus, the support measures were sorted out year by year and into five major categories/themes, such as policy-related measures, admission-related measures, access to additional support services, adaptation of curriculum, instructional strategies and assessment tools, as well as provision of resources. The upper title of the graph refers to the support categories or themes whereas the bottom caption indicates the code to each support measure. The codes of support measures consisting of a two, three and four-figures outline were included in the figures instead of the statements written in the questionnaires. The left side caption shows the respondents of Delphi questionnaires. Accordingly, the researcher made the graphic representations of the support measures in line with their implementation years and the categories/themes emerged from interviews` data and literature study.

#### 1. A list of support measures to be implemented in year 1

This section focuses on graphic representations of a list of support measures prioritized by those Delphi participants who have 50% and more level of consensus about the importance, feasibility and ease of implementation of each support measure in year 1.

##### 1.1 A list of policy-related support measures to be implemented in year 1

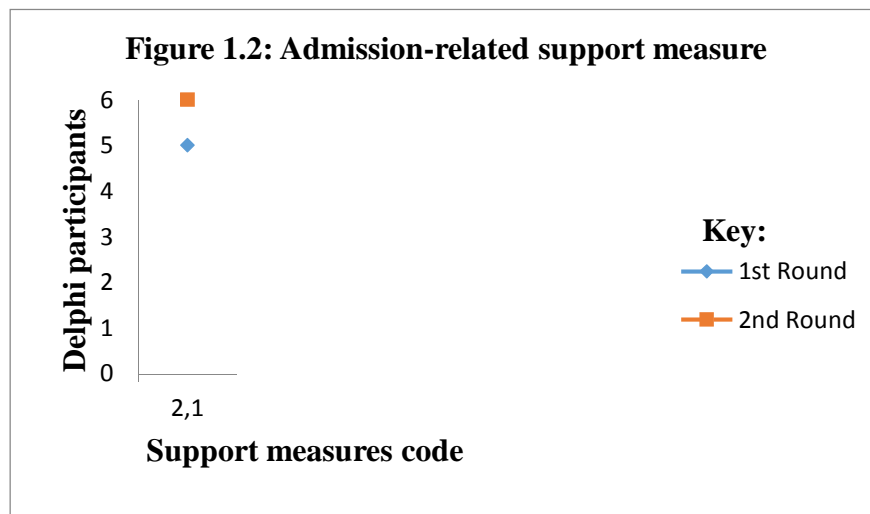
In this sub-section, the researcher represented graphically a list of policy-related support measures (using their codes) that should be implemented in year 1 based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.1 shows, there is no big difference between the two rounds Delphi processes in terms of the numbers and responses of participants. For example, all participants unanimously agreed with the implementation of the support measures 1.1 and 1.4 in year 1. On the other hand, five respondents of the first round and all respondents of the second round Delphi questionnaire have accepted the support measures 1.2 and 1.3 to be implemented in year 1. Although two participants have improved their initial responses during the second round Delphi process, all participants unanimously agree with the implementation of the first four policy-related support measures in year 1. They left only one policy-related support measure to be implemented in another years.

#### 1.2 A list of admission-related support measures to be implemented in year 1

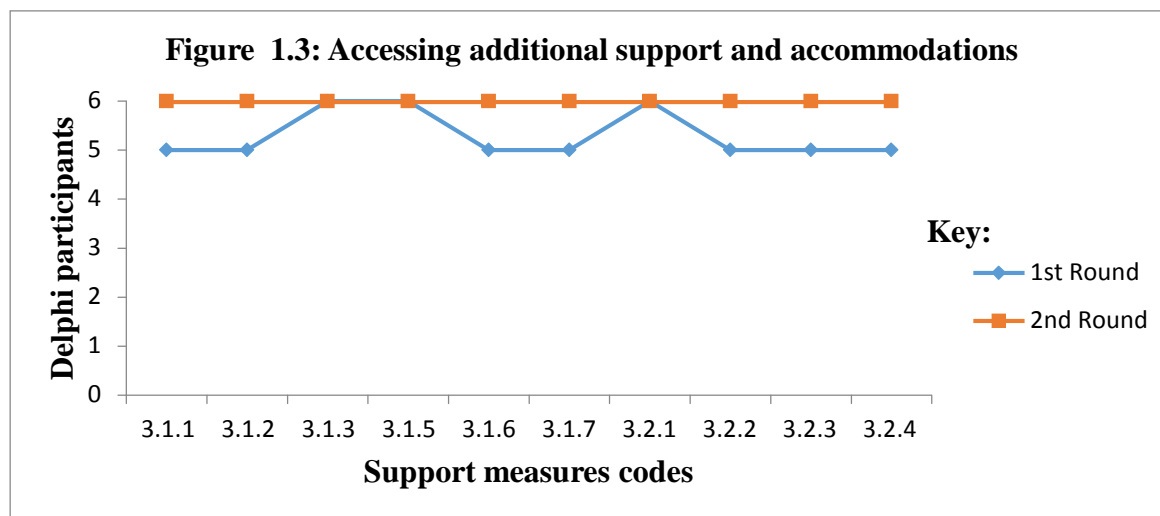
In this sub-section, the researcher made the following graphic representation of an admission-related support measure (using its code) that should be implemented in year 1 based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.2 shows, there is no big difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants. Thus, five Delphi experts initially accepted the support measure 2.1 to be implemented in year 1. As one participant has finally changed his initial response during the second round Delphi questionnaire, all participants unanimously agreed with the implementation of the support measures 2.1 in year 1. In general, the Delphi participants have given priority to the first one among five admission-related support measures to be implemented in year 1.

### 1.3 A list of support measures on accessing additional support services to be implemented in year 1

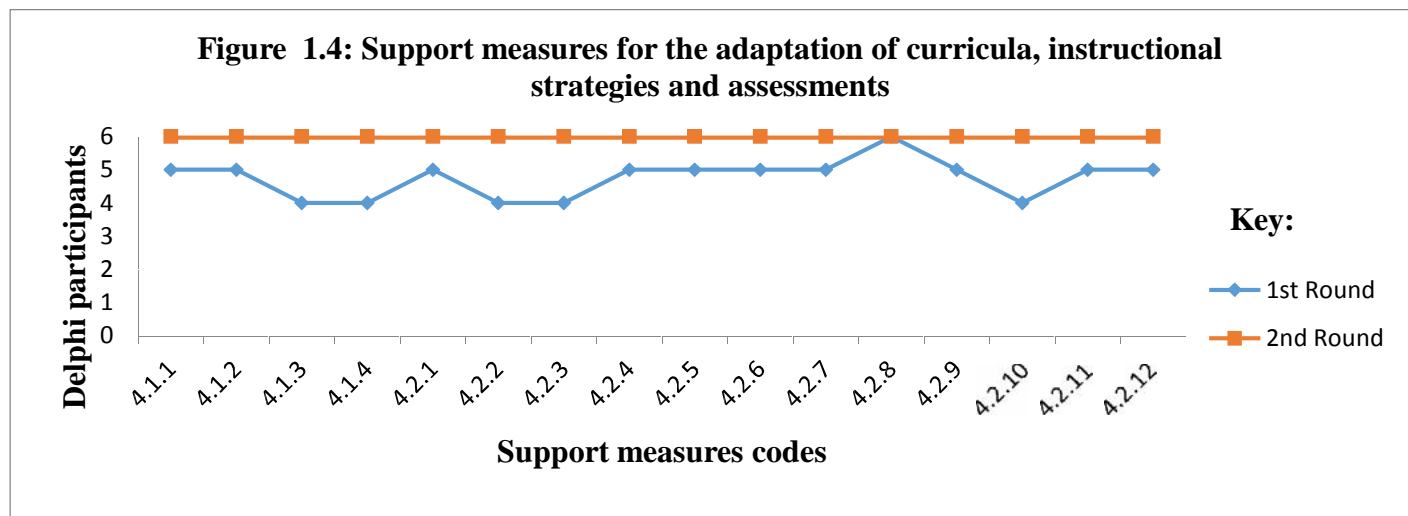
In this sub-section, the researcher made the following graphic representation on accessing additional supports and accommodations (using their codes) that should be implemented in year one based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.3 illustrates, there is no big difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants about accessing additional support measures to students with VI. In the first round Delphi process, six participants have similarly accepted the implementation of the support measures 3.1.3, 3.1.5 and 3.2.1 whereas five participants accepted the implementation of support measures 3.1.1, 3.1.2, 3.1.6, 3.1.7, 3.2.2, 3.2.3 and 3.2.4 in year 1. The latter support measures, however, have got the unanimous agreements of six participants in the second round Delphi process. Lastly, all Delphi experts unanimously agreed with the implementation of all support measures demonstrated in Figure 1.3 in year 1.

### 1.4 A list of support measures on the adaptations of curricula, instructional strategies and assessment tools to be implemented in year 1

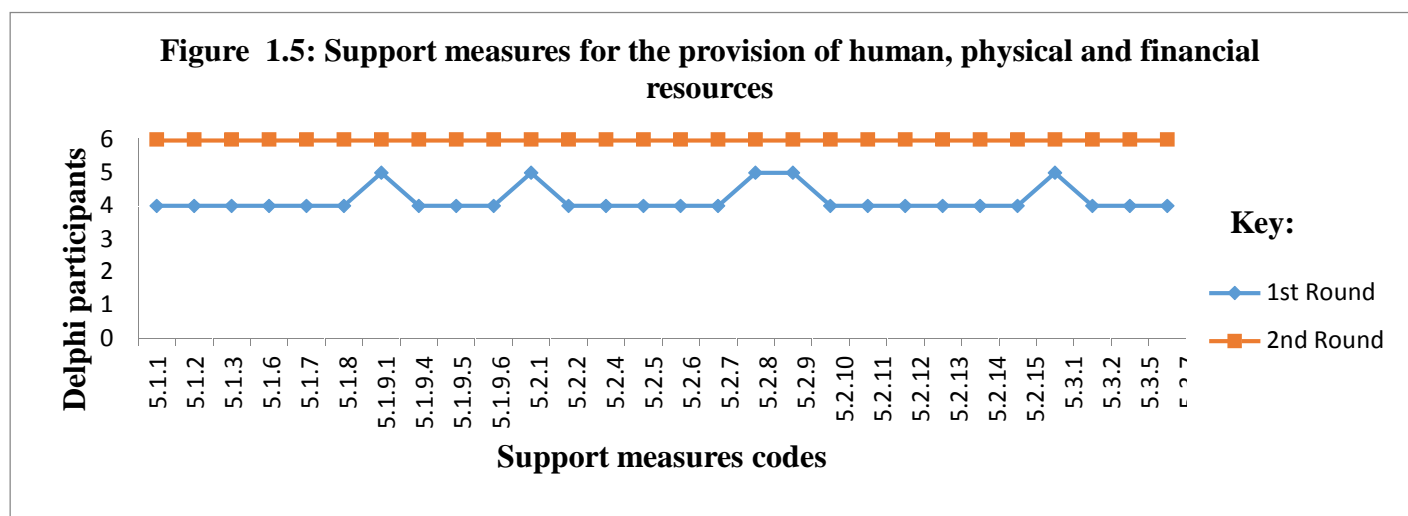
In this sub-section, the researcher made the following graphic representation of support measures for the adaptation of curricula, instructional strategies and assessments (using their codes) that should be implemented in year one based on the consensus of opinion among four, five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.4 shows, there is a relatively small difference between the two rounds Delphi processes in terms of the numbers of respondents to each support measure. In the first round Delphi process, for example, only four participants accepted 5 support measures and five participants agreed with 10 support measures to be implemented in year two. It was only one support measure that has got the full consent of all participants during the first round Delphi process. However, a unanimous agreement was finally reached among all participants during the second round Delphi process as one or two participants have improved their initial responses to the first round Delphi questionnaire against 15 support measures. Thus, all participants unanimously agree with the implementation of 16 of the curriculum, instructional strategy and assessment-related support measures in year 1.

#### 1.5 A list of support measures to provide adequate and relevant human, physical and financial resources in year 1

In this sub-section, the researcher made the following graphic representation of support measures for the provision of human, physical and financial resources (using their codes) that should be implemented in year 1 based on the consensus of opinion among four, five and six Delphi experts respectively during the first and second round Delphi processes.



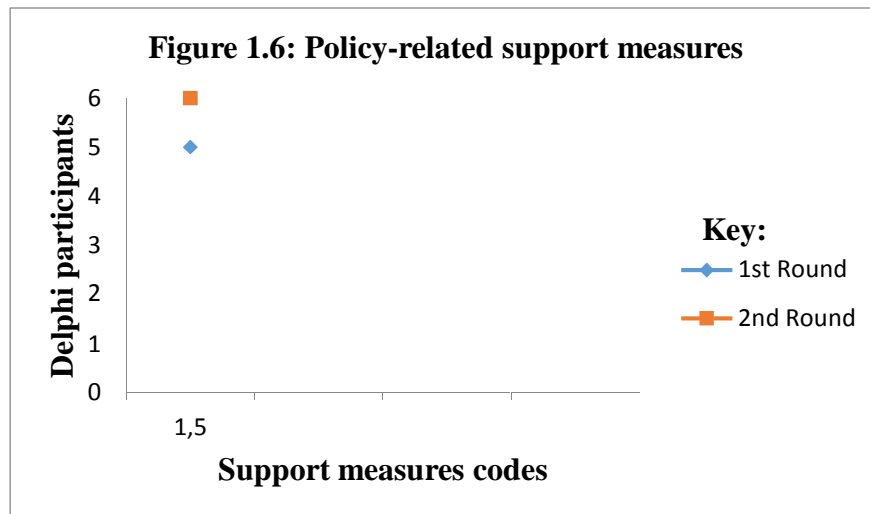
As Figure 1.5 demonstrates, there is a difference in the range of 1 to 3 respondents between the two rounds Delphi processes with regard to all support measures on resources. In the first round Delphi process especially, four participants made suggestion on 20 and five participants on 5 support measures to be implemented in year 1. Surprisingly, a unanimous agreement was finally reached among all participants during the second round Delphi process as all participants have improved their initial responses to the first round Delphi questionnaire. Thus, all participants unanimously agree with the implementation of 25 human, physical and financial resource-related support measures in year 1.

## 2. A list of support measures to be implemented in year 2

This section focuses on graphic representations of a list of support measures prioritized by those Delphi participants who have 50% and more level of consensus about the importance, feasibility and ease of implementation of each support measure in year 2.

### 2.1A list of policy-related support measures to be implemented in year 2

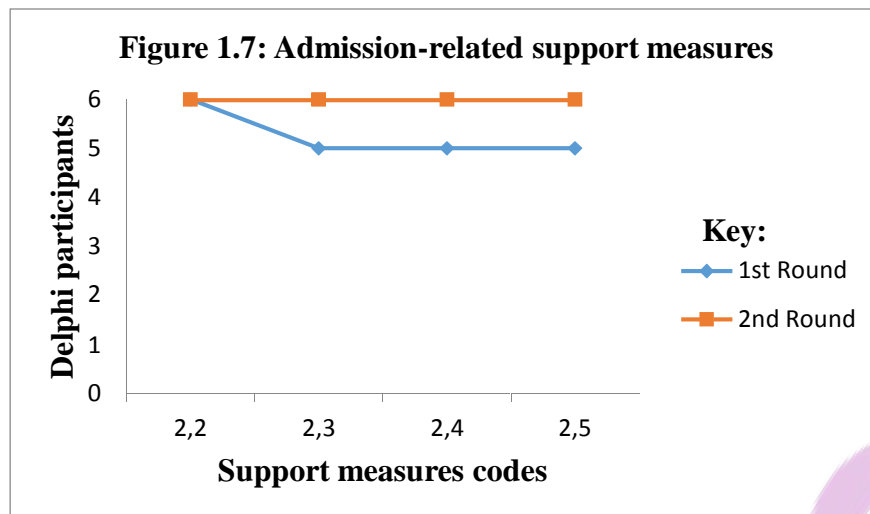
In this sub-section, the researcher represented graphically a list of policy-related support measures (using their codes) that should be implemented in year 2 based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



It was indicated in Figure 1.1 that all Delphi participants lastly agreed to implement the first four policy-related support measures. Figure 1.6, in turn, shows the implementation of the last (1.5) policy-related support measure in year 2. Thus, Figure 1.6 shows that there is only one respondent who did not agree with the implementation of the support measure 1.5 during the initial round of Delphi process. As a result, five respondents of the first round and all respondents of the second round Delphi questionnaire have accepted the support measure 1.5 to be implemented in year 2. Only one participant has changed his initial response during the second round Delphi process so that all participants unanimously agree with the implementation of the last policy-related support measure in year 2.

### 2.2 A list of admission-related support measures to be implemented in year 2

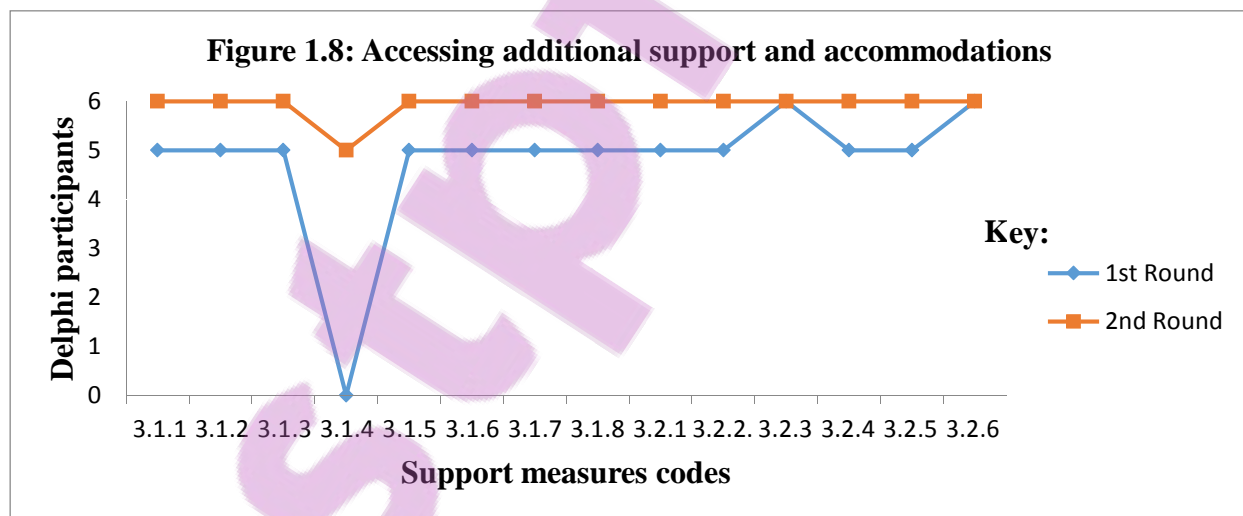
In this sub-section, the researcher made the following graphic representation of an admission-related support measures (using their codes) that should be implemented in year 2 based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.7 shows, there is no significant difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants. Thus, all participants made identical agreement with the implementation of the support measure 2.2 whereas five Delphi experts initially accepted the support measure 2.3, 2.4 and 2.5 to be implemented in year 2 during the first round Delphi process. As one participant finally changed his initial response during the second round Delphi questionnaire, all participants unanimously agreed with the implementation of the admission-related support measures 2.2, 2.3, 2.4 and 2.5 in year 2.

### 2.3 A list of support measures on accessing additional support services to be implemented in year 2

In this sub-section, the researcher made the following graphic representation on accessing additional supports and accommodations (using their codes) that should be implemented in year 2 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.

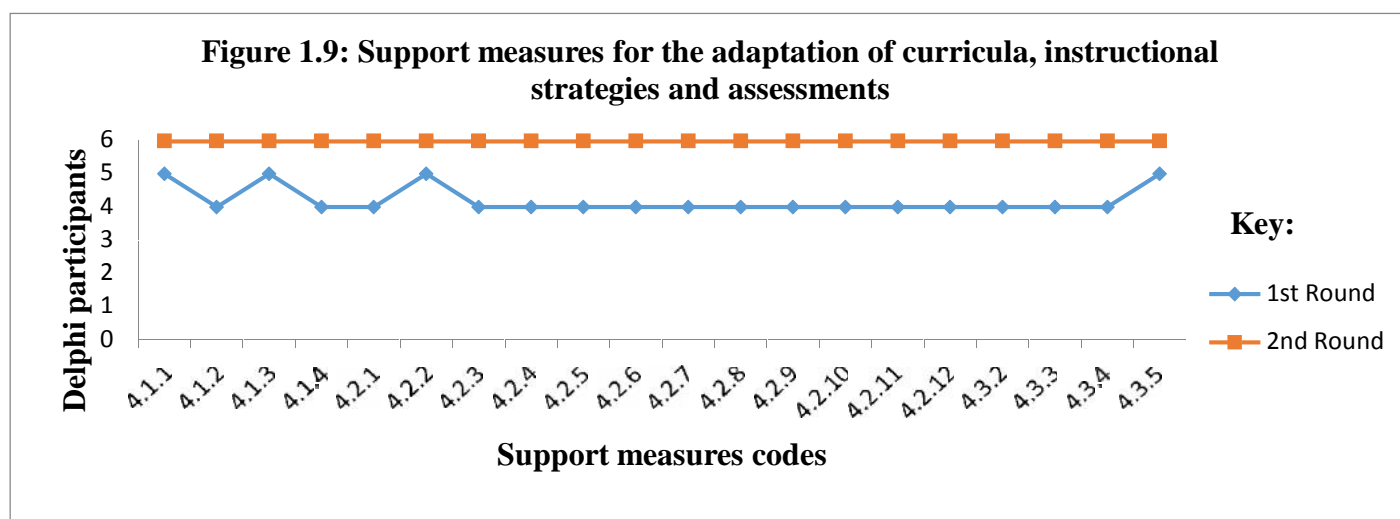


As Figure 1.8 illustrates, there is a big difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants about accessing the support measure 3.1.4. In the first round Delphi process, participants exceptionally failed to reach 50 % agreement with regard to support measure 3.1.4 and five of the participants conversely have similarly accepted the implementation of the support measures 3.1.1, 3.1.2, 3.1.3, 3.1.5, 3.1.6, 3.1.7, 3.1.8, 3.2.1, 3.2.2, 3.2.4 and 3.2.5. In addition, all participants uniformly made a suggestion in the first round Delphi process about the implementation of support measures 3.2.3 and 3.2.6 in year 2. As all participants have lastly improved their initial responses during the second round Delphi questionnaire, five

participants have the same opinion about implementing the support measure 3.1.4 and all participants unanimously agreed with the implementation of the rest admission-related support measures stated in Figure 1.8 by the year 2.

#### 2.4 A list of support measures on the adaptations of curricula, instructional strategies and assessment tools to be implemented in year 2

In this sub-section, the researcher made the following graphic representation of support measures for the adaptation of curricula, instructional strategies and assessments (using their codes) that should be implemented in year 2 based on the consensus of opinion among four, five and six Delphi experts respectively during the first and second round Delphi processes.

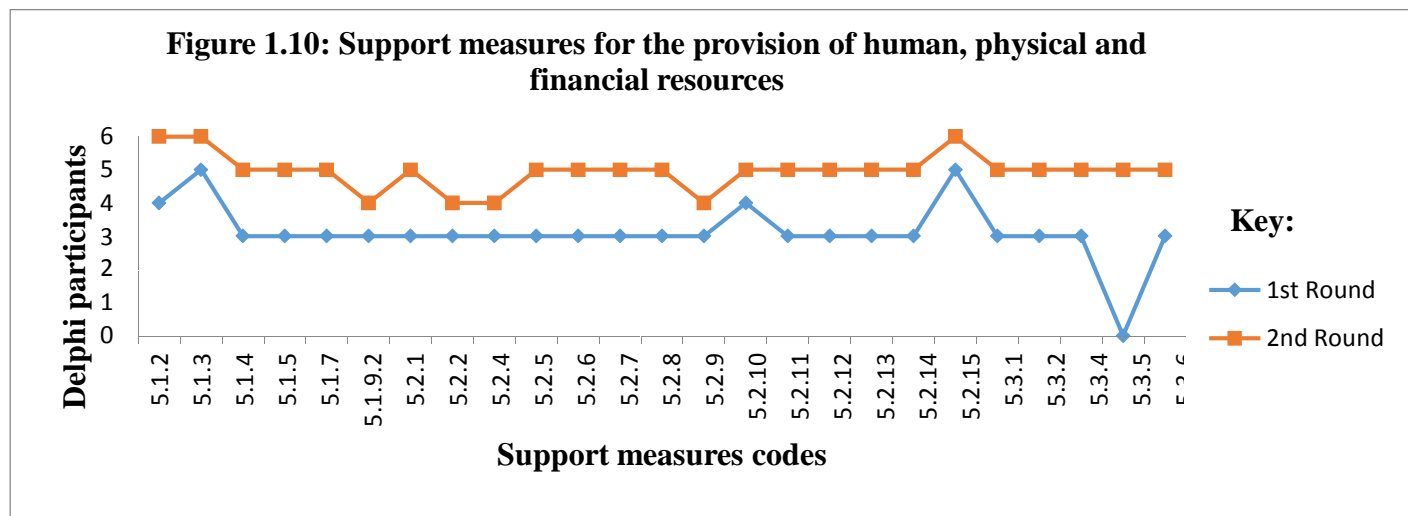


As Figure 1.9 shows, there is a relatively small difference between the two rounds Delphi processes in terms of the numbers of respondents to each support measure. In the first round Delphi process, for example, only four participants accepted 16 support measures and five participants agreed with 4 support measures to be implemented in year 2. However, a unanimous agreement was finally reached among all participants during the second round Delphi process as all of them have improved their initial responses to the first round Delphi questionnaire against 20 support measures. Thus, all participants unanimously agree with the entire curriculum, instructional strategy and assessment-related support measures specified in Figure 1.9 to be implemented in year 2.

#### 2.5 A list of support measures to provide adequate and relevant human, physical and financial resources in year 2

In this sub-section, the researcher made the following graphic representation of support measures for the provision of human, physical and financial resources (using their codes) that should be implemented in year 2 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.





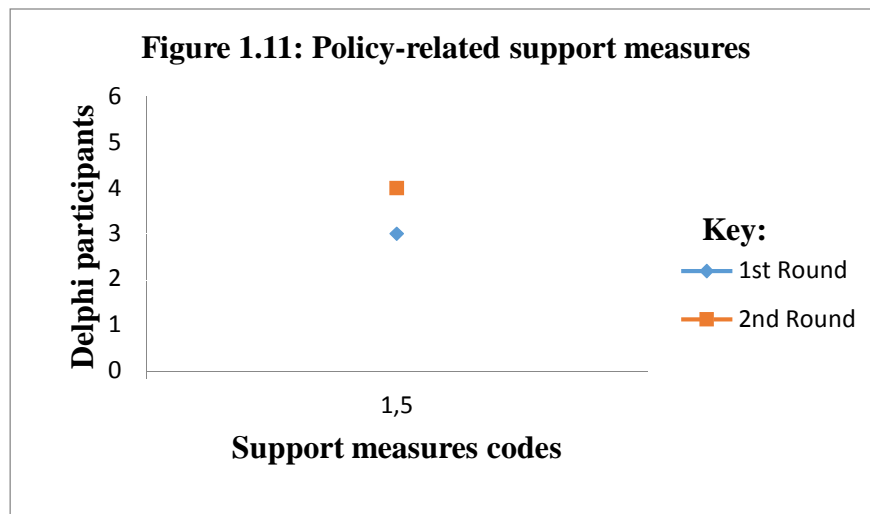
As Figure 1.10 demonstrates, there is a relatively big difference, in the range of 1 to 3 respondents, between the two rounds Delphi processes with regard to all support measures on resources. In the first round Delphi process, for example, three participants made suggestion on 20, four participants on 2 and five participants on 2 support measures to be implemented in year 2. Besides, participants exceptionally failed to reach 50 % agreement with regard to support measure 5.3.5 in round one Delphi process. There was also a unique difference among Delphi participants when judging the importance of some support measures even during the second round Delphi process. For instance, four participants have made an agreement with 4 support measures, five participants with 18 and six participants with 3 support measures to be implemented in year 2 after getting feedback about their prior responses to the first round Delphi questionnaire. Although there was no unanimous agreement among the Delphi participants across the support measures, every participant has improved his/her initial responses during the second round Delphi questionnaire. As a result, more than 66% of consensus of opinion was reached among all Delphi experts to implement all human, physical and financial resource-related support measures depicted in Figure 1.10 during year 2.

### 3.A list of support measures to be implemented in year 3

This section focuses on graphic representations of a list of support measures prioritized by those Delphi participants who have 50% and more level of consensus about the importance, feasibility and ease of implementation of each support measure in year 3.

#### 3.1 A list of policy-related support measures to be implemented in year 3

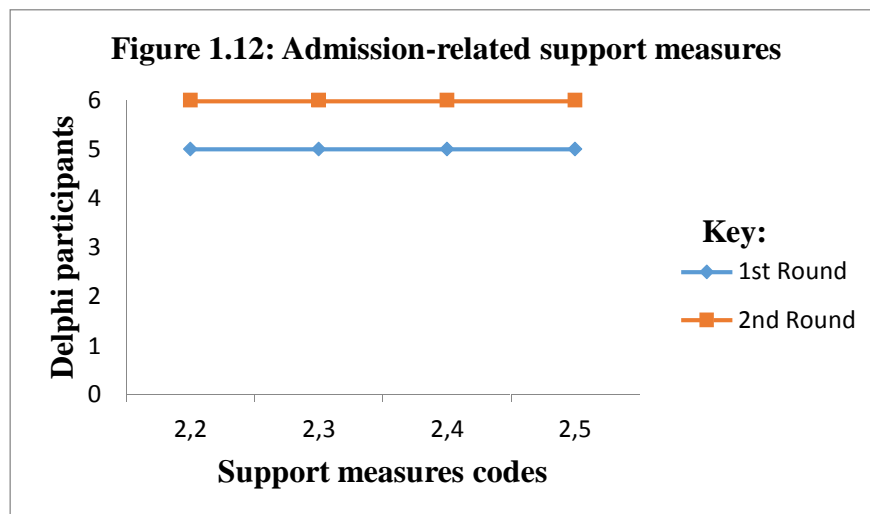
In this sub-section, the researcher represented graphically a policy-related support measure (using its code) that should be implemented in year 3 based on the consensus of opinion among three and four Delphi experts respectively during the first and second round Delphi processes.



It was indicated in Figure 1.6 that all Delphi participants lastly agreed to implement the last policy-related support measure (1.5) in year two for the first time. Figure 1.11 again shows the importance of re-implementing the support measure 1.5 as three respondents of the first round and four respondents of the second round Delphi questionnaires have accepted to let it be implemented in year 3. In fact, there are two participants who do not agree with the implementation of the support measure 1.5 in year 3 rather than year 2. Since the final agreement was made by four (more than 60%) of Delphi participants, it is found appropriate to implement the support measure 1.5 in year 3 too.

### 3.2 A list of admission-related support measures to be implemented in year 3

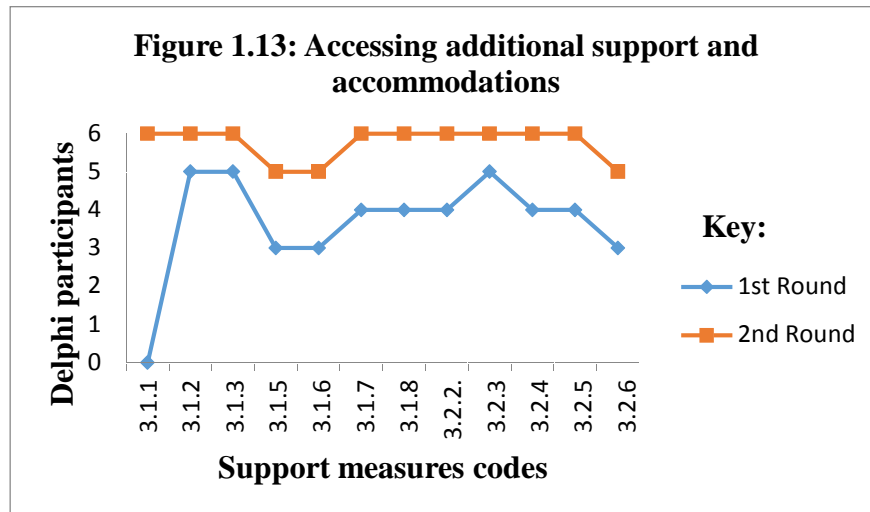
In this sub-section, the researcher made the following graphic representation of an admission-related support measures (using their codes) that should be implemented in year 3 based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.12 shows, there is no significant difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants. For example, five participants made identical agreement with the support measures 2.2, 2.3, 2.4 and 2.5 to be implemented in year 3 during the first round Delphi process. As the participants finally changed their initial responses during the second round Delphi questionnaire, all participants unanimously agreed with the implementation of the admission-related support measures 2.2, 2.3, 2.4 and 2.5 in year 3.

### 3.3 A list of support measures on accessing additional support services to be implemented in year 3

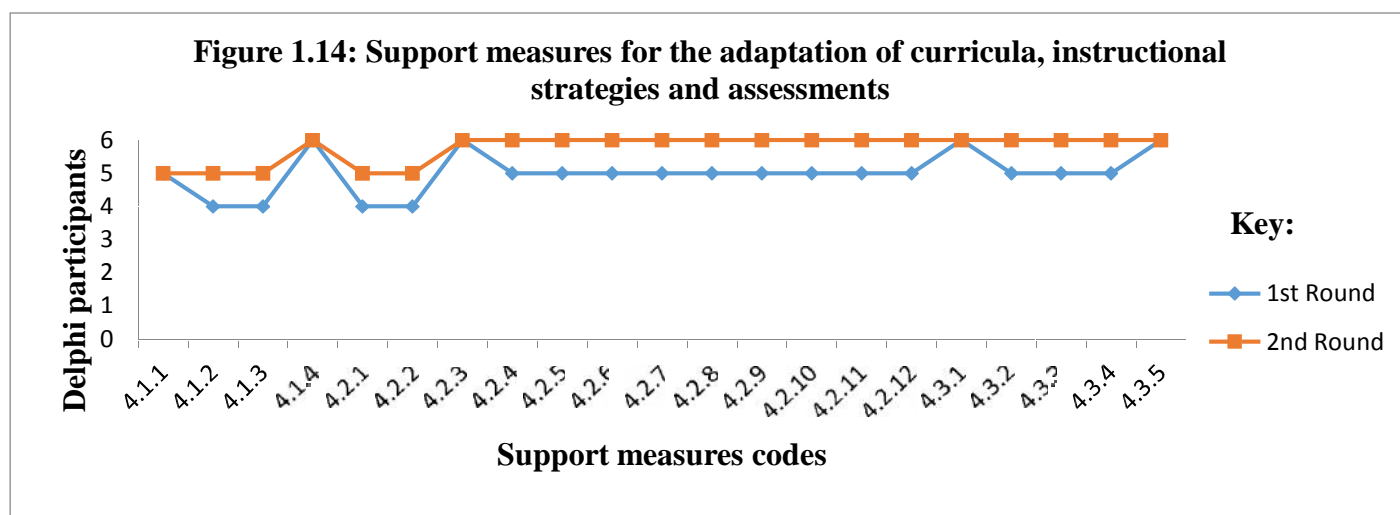
In this sub-section, the researcher made the following graphic representation on accessing additional supports and accommodations (using their codes) that should be implemented in year 3 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.13 illustrates, there is a big difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants about the support measure to access additional supports. In the first round Delphi process, for example, participants exceptionally failed to reach 50 % agreement with regard to the implementation of the support measure 3.1.1. On the other hand, three of the participants have the same opinion about implementing the support measures 3.1.5, 3.1.6 and 3.2.6 in year 3. In addition, four participants uniformly made a suggestion in the first round Delphi process about the support measures 3.1.7, 3.1.8, 3.2.2, 3.2.4 and 3.2.5, as well as five participants accepted the support measures 3.1.2, 3.1.3 and 3.2.3 to be implemented in year 3. As all participants have lastly improved their initial responses during the second round Delphi questionnaire, five participants have the same opinion about implementing the support measures 3.1.5, 3.1.6 and 3.2.6 whereas all participants unanimously agreed with the implementation of the rest admission-related support measures stated in Figure 1.13 by the year 3.

### 3.4 A list of support measures on the adaptations of curricula, instructional strategies and assessment tools to be implemented in year 3

In this sub-section, the researcher made the following graphic representation of support measures for the adaptation of curricula, instructional strategies and assessments (using their codes) that should be implemented in year 3 based on the consensus of opinion among four, five and six Delphi experts respectively during the first and second round Delphi processes.



It was illustrated in Figure 1.14 that there is a relatively small difference between the two rounds Delphi processes in terms of the numbers of respondents to each support measure. In the first round Delphi process, for example, only four participants accepted the support measures 4.1.2, 4.1.3, 4.2.1 and 4.2.2 whereas six participants accepted 4.1.4, 4.2.3, 4.3.1 and 4.3.5, as well as five participants agreed with the rest 12 support measures to be implemented in year 3. On the other hand, all participants have improved their initial responses during the second round Delphi process against 16 support measures regardless of the support measures 4.1.1, 4.1.4, 4.2.3, 4.3.1 and 4.3.5. Thus, five participants lastly made the same agreement on support measures 4.1.1, 4.1.2, 4.1.3, 4.2.1 and 4.2.2 whereas a unanimous agreement was reached among all participants on the remaining 16 support measures during the second round Delphi process to be implemented in year 3. In general, either five or all participants unanimously agree with the implementation of all the curriculum, instructional strategy and assessment-related support measures indicated in Figure 1.14 during year 3.

### 3.5 A list of support measures to provide adequate and relevant human, physical and financial resources in year 3

In this sub-section, the researcher made the following graphic representation of support measures for the provision of human, physical and financial resources (using their codes) that should be implemented in year 3 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.

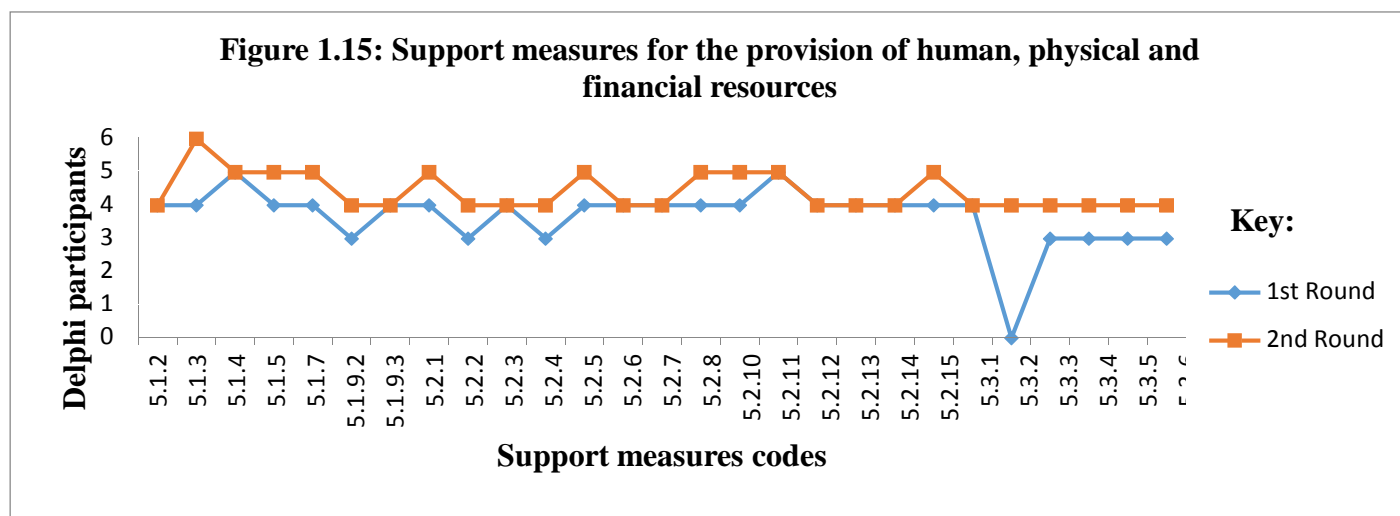


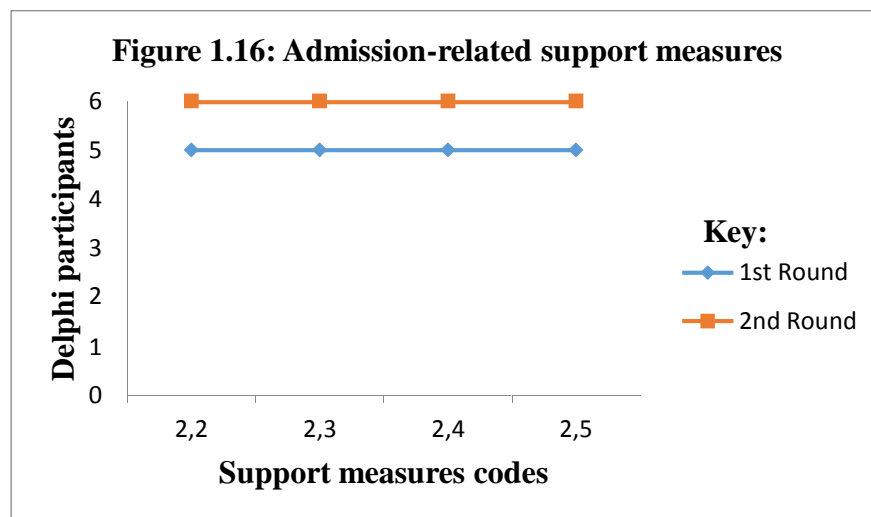
Figure 1.15 shows that there is a relatively big difference, in the range of 1 to 3 respondents, between the two rounds Delphi processes with regard to the support measures outlined on the provision of different resources. During the first round Delphi process, for example, three participants made suggestion on 7, four participants on 17 and five participants on 2 support measures to be implemented in year 3. Besides, participants exceptionally failed to reach 50 % agreement with regard to support measure 5.3.2 in round one Delphi process. There was also a unique difference among Delphi participants when judging the importance of some support measures even during the second round Delphi process. For instance, four participants have made an agreement with 17 support measures, five participants with 9 support measures and six participants with only 1 support measure to be implemented in year 3. Although there was no unanimous agreement among all Delphi participants across the support measures other than 5.1.3, most participants have improved their initial responses during the second round Delphi questionnaire after getting feedback about their responses to the first round Delphi questionnaire. All in all, more than 66% of consensus of opinion was reached among all Delphi experts to implement all (27) human, physical and financial resource-related support measures outlined in Figure 1.10 during year 3.

#### 4. A list of support measures to be implemented in year 4

This section focuses on graphic representations of a list of support measures prioritized by those Delphi participants who have 50% and more level of consensus about the importance, feasibility and ease of implementation of each support measure in year 4. Since all participants could not suggest any policy-related support measure for year 4, the presentation of data begins with the second category/theme or a list of admission- related support measures.

##### 4.1 A list of admission-related support measures to be implemented in year 4

In this sub-section, the researcher represented graphically admission-related support measure (using its code) that should be implemented in year 4 based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.16 shows, there is no significant difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants. For example, five participants made identical agreement with the support measures 2.2, 2.3, 2.4 and 2.5 to be implemented in year 4 during the first round Delphi process. As the participants finally changed their initial responses during the second round Delphi questionnaire, all participants unanimously agreed with the implementation of the admission-related support measures 2.2, 2.3, 2.4 and 2.5 in year 4.

#### 4.2 A list of support measures on accessing additional support services to be implemented in year 4

In this sub-section, the researcher made the following graphic representation on accessing additional supports and accommodations (using their codes) that should be implemented in year 4 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.

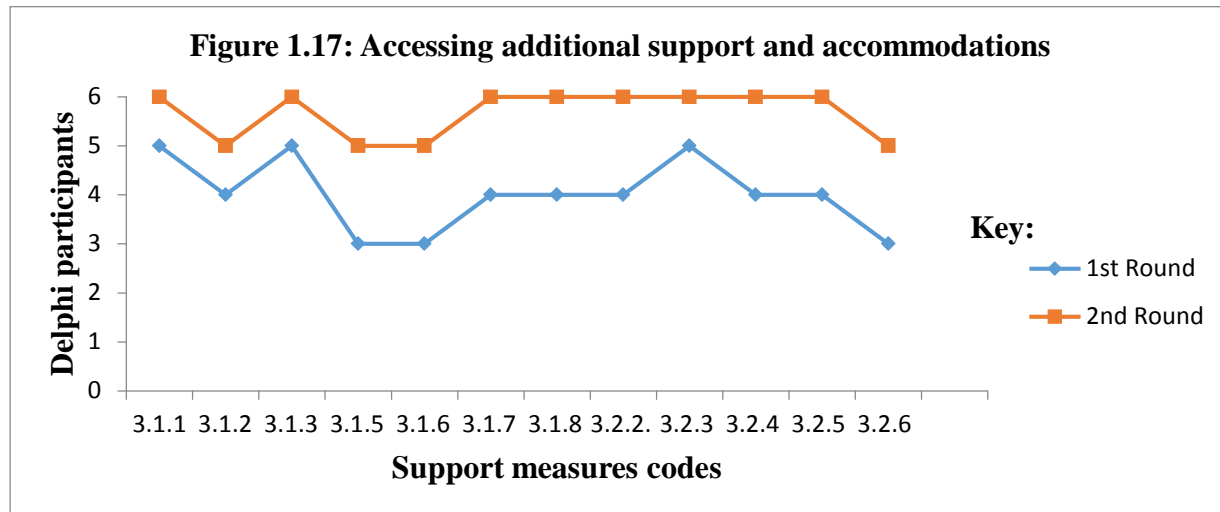
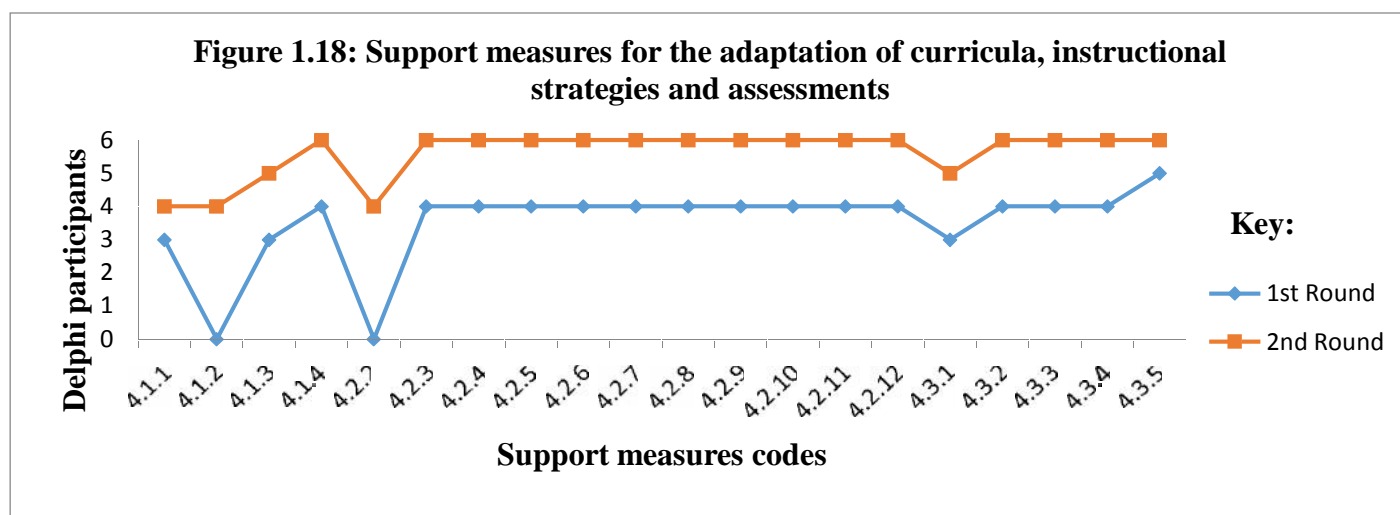


Figure 1.17 demonstrates that there is a significant difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants about the support measure in accessing additional supports and accommodations. In the first round Delphi process, for example, three of the participants have accepted the support measures 3.1.5, 3.1.6 and 3.2.6 whereas four participants made an agreement with the support measures 3.1.2, 3.1.7, 3.1.8, 3.2.2, 3.2.4 and 3.2.5 to be implemented in year 4. Besides, five participants made a suggestion in the first round Delphi process to implement the support measures 3.1.1, 3.1.3 and 3.2.3 in year 4. As all participants have lastly improved their initial responses during the second round Delphi questionnaire, five participants have made the same opinion on the support measures 3.1.2, 3.1.5, 3.1.6 and 3.2.6 whereas all participants unanimously agreed with the rest 8 additional support and accommodation-related support measures stated in Figure 4.17 to be implemented by the year 4.

#### 4.3 A list of support measures on the adaptations of curricula, instructional strategies and assessment tools to be implemented in year 4

In this sub-section, the researcher made the following graphic representation of support measures for the adaptation of curricula, instructional strategies and assessments (using their codes) that should be implemented in year 4 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.18 shows, there is a big difference between the two rounds Delphi processes in terms of the numbers of respondents to each support measure. In the first round Delphi process, for example, only three participants agreed with the support measures 4.1.1, 4.1.3 and 4.3.1 and four participants accepted 14 support measures as well as five participants agreed with the support measure 4.3.5 only to be implemented in year 4. On the other hand, there was no agreement among 3 or 50% of the participants in the first round Delphi process to implement the support measures 4.1.2 and 4.2.2 in year 4. However, a unanimous agreement was finally reached among all participants during the second round Delphi process as all of them have improved their initial responses to the first round Delphi questionnaire against all 20 support measures illustrated in Figure 4.18. Thus, four participants lastly had an agreement on the support measures 4.1.1, 4.1.2 and 4.2.2 and five participants accepted the support measures 4.1.3 and 4.3.1 whereas all participants unanimously agree with 15 of the curriculum, instructional strategy and assessment-related support measures specified in Figure 1.18 to be implemented in year 4.

#### 4.4 A list of support measures to provide adequate and relevant human, physical and financial resources in year 4

In this sub-section, the researcher made the following graphic representation of support measures for the provision of human, physical and financial resources (using their codes) that should be implemented in year 4 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.

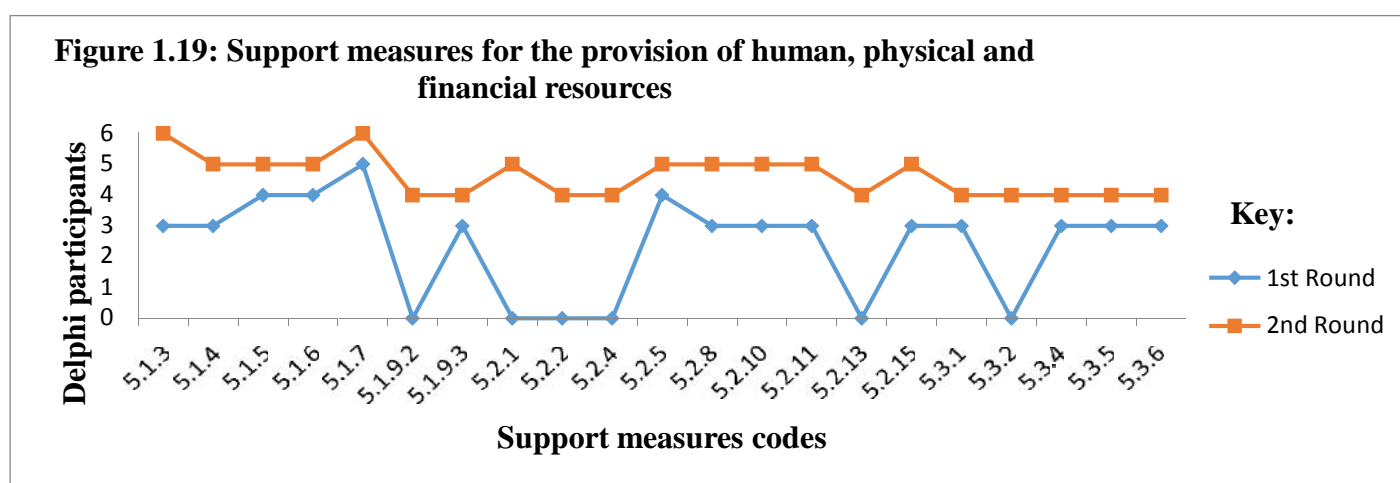


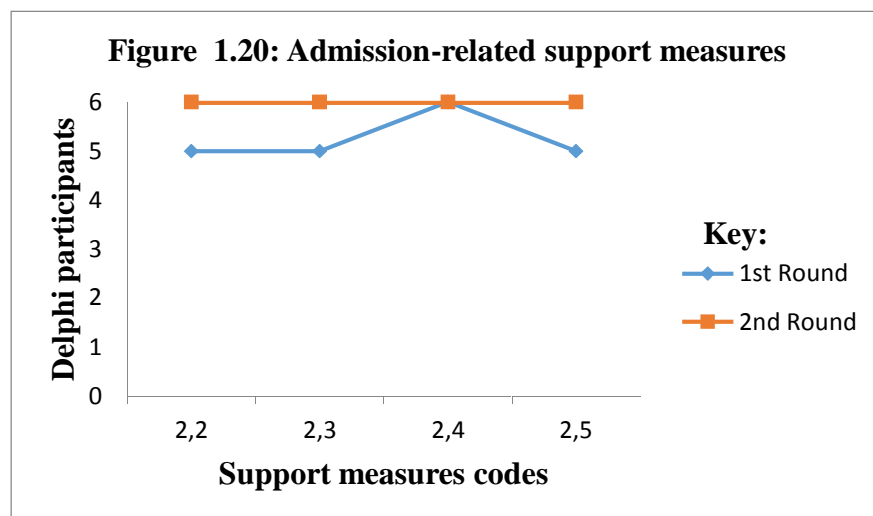
Figure 1.19 shows that there is a relatively big difference, in the range of 1 to 3 respondents, between the two rounds Delphi processes with regard to the support measures outlined on the provision of different resources. During the first round Delphi process, for example, three participants made an agreement to implement 11 support measures whereas four participants accepted 3 and five participants agreed with one support measure (i.e. 5.1.7) to be implemented in year 4. Besides, participants exceptionally failed to reach 50 % agreement with regard to the implementation of the support measures 5.1.9.2, 5.2.1, 5.2.2, 5.2.4, 5.2.13 and 5.3.2 in the first round Delphi process. Even though all participants have improved their initial responses to the first round Delphi questionnaire after getting feedback, there was remarkable difference among Delphi participants when judging the implementation time of some support measures even during the second round Delphi process. For instance, four participants have made an agreement with 10 support measures, five participants with 9 support measures and six participants with only 2 support measures to be implemented in year 4. All in all, there was a unanimous agreement among all Delphi participants regarding the implementation of two support measures (5.1.3 and 5.1.7) as well as four to five Delphi experts lastly accepted the remaining (19) human, physical and financial resource-related support measures outlined in Figure 1.19 to let them be implemented in year 4.

## 5 A list of support measures to be implemented in year 5

This section focuses on graphic representations of a list of support measures prioritized by those Delphi participants who have 50% and more level of consensus about the importance, feasibility and ease of implementation of each support measure in year 5. Since all participants could not suggest any policy-related support measure for year 5, the presentation of data begins with the second category/theme or a list of admission-related support measures.

### 5.1 A list of admission-related support measures to be implemented in year 5

In this sub-section, the researcher represented graphically admission-related support measure (using its code) that should be implemented in year 5 based on the consensus of opinion among five and six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.20 shows, there is no significant difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants. For example, there is no difference between the two rounds Delphi processes since all participants similarly approved the implementation of the support measure 2.4 in year 5. On the other hand, five participants agreed with the implementation of the support measures 2.2, 2.3 and 2.5 in year 5 during the first round Delphi process whereas all participants had an identical decision on the aforementioned support measures in the second round Delphi process. As all participants lastly changed their initial responses during the second round Delphi questionnaire, they unanimously agreed with the implementation of the admission-related support measures 2.2, 2.3, 2.4 and 2.5 in year 5.



### 5.2 A list of support measures on accessing additional support services to be implemented in year 5

In this sub-section, the researcher made the following graphic representation on accessing additional supports and accommodations (using their codes) that should be implemented in year 5 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.

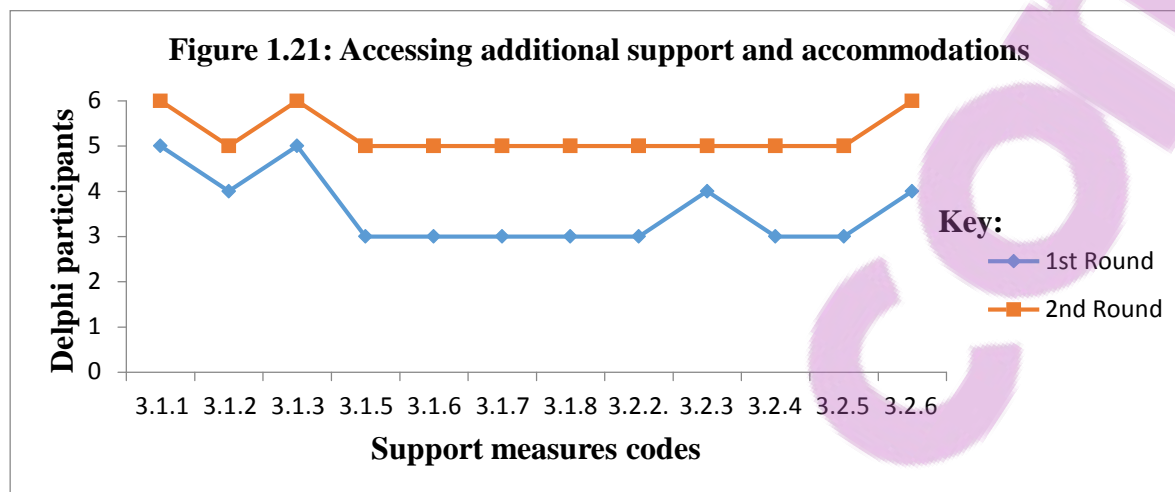
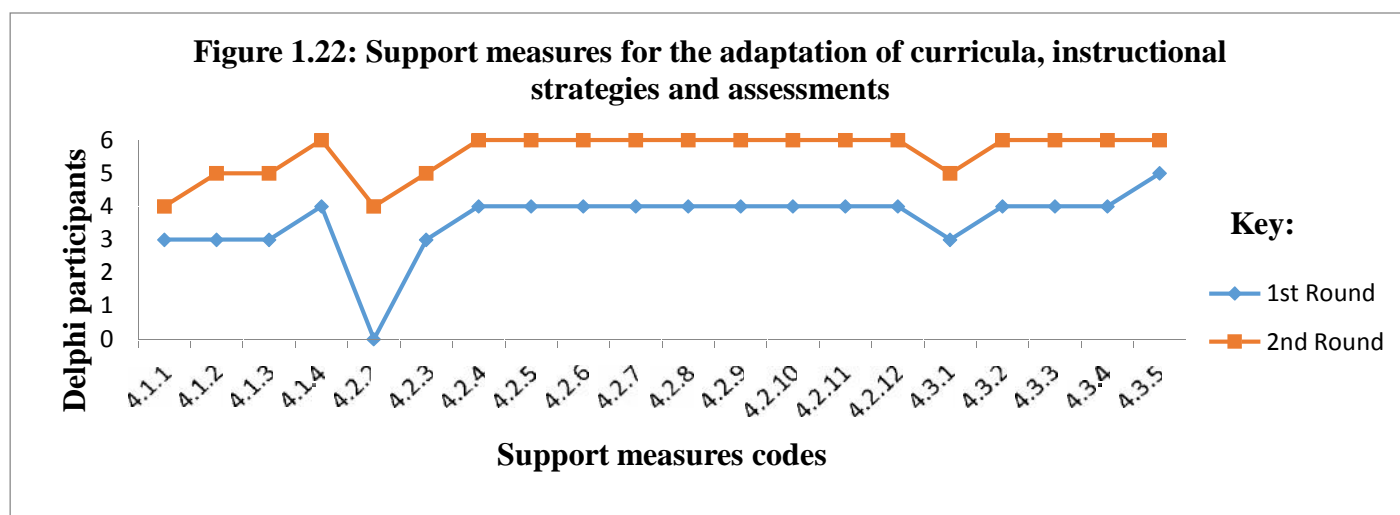


Figure 1.21 shows that there is a significant difference between the two rounds Delphi processes in terms of the degree of consensus reached among participants about the support measure in accessing additional supports and accommodations. In the first round Delphi process, for example, three of the participants accepted the support measures 3.1.5, 3.1.6, 3.1.7, 3.2.2, 3.2.4 and 3.2.5 whereas four participants made an agreement with the support measures 3.1.2, 3.1.8, 3.2.3 and 3.2.6 to be implemented in year 5. Besides, five participants made an agreement in the first round Delphi process to implement the support measures 3.1.1 and 3.1.3 in year 5. In the second round Delphi process, on the other hand, all participants have improved their initial responses to the first round Delphi questionnaire in terms of the implementation year of additional support and accommodation-related support measures. As a result, five participants have the same opinion about 9 support measures stated in Figure 1.21 as well as all participants unanimously agreed with the rest 3 support measures (i.e., 3.1.1, 3.1.3 and 3.2.6) to let them be implemented by the year 5.

### 5.3 A list of support measures on the adaptations of curricula, instructional strategies and assessment tools to be implemented in year 5

In this sub-section, the researcher made the following graphic representation of support measures for the adaptation of curricula, instructional strategies and assessments (using their codes) that should be implemented in year 5 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.



As Figure 1.22 shows, there is a big difference between the two rounds Delphi processes in terms of the numbers of respondents to each support measure. In the first round Delphi process, for example, only three participants agreed with the support measures 4.1.1, 4.1.2, 4.1.3, 4.2.3 and 4.3.1 whereas four participants accepted 13 support measures as well as five participants agreed with the support measure 4.3.5 only to be implemented in year 5. On the other hand, there was no agreement among 3 or 50% of the participants in the first round Delphi process to implement the support measure 4.2.2 in year 5. However, all participants have improved their initial responses during the second round Delphi questionnaire against all 20 support measures illustrated in Figure 1.22. Thus, four participants lastly had an agreement on the support measures 4.1.1 and 4.2.2 and five participants accepted the support measures 4.1.2, 4.1.3, 3.2.3 and 4.3.1 whereas all participants unanimously agree with 14 of the curriculum, instructional strategy and assessment-related support measures specified in Figure 1.22 to be implemented in year 5.

#### 5.4 A list of support measures to provide adequate and relevant human, physical and financial resources in year 5

In this sub-section, the researcher made the following graphic representation of support measures for the provision of human, physical and financial resources (using their codes) that should be implemented in year 5 based on the consensus of opinion among three to six Delphi experts respectively during the first and second round Delphi processes.

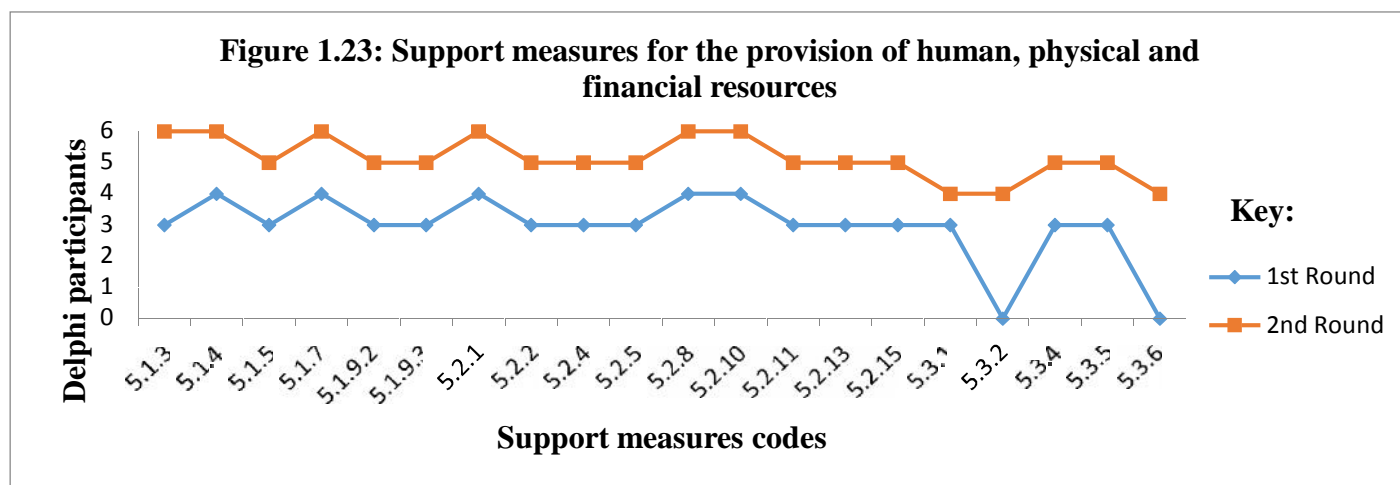


Figure 1.23 shows that there is a relatively big difference, in the range of 1 to 3 respondents, between the two rounds Delphi processes with regard to the support measures outlined on the provision of different resources. During the first round Delphi process, for example, three participants made an agreement to implement 13 support measures whereas four participants accepted 5 support measures to be implemented in year 5. Besides, participants exceptionally failed to reach 50 % agreement with regard to the implementation of the support measures 5.3.2 and 5.3.6 in the first round Delphi process. Even though all participants have improved their initial responses to the first round Delphi questionnaire after getting feedback, there was remarkable difference among Delphi participants when judging the implementation time of some support measures even during the second round Delphi process. For instance, four participants have made an agreement with 3 support measures and five participants with 11 support measures whereas all participants unanimously agreed with 6 support measures to be implemented in year 5. Although there was a difference of opinion among all Delphi participants, they finally accepted the 20 human, physical and financial resource-related support measures outlined in Figure 1.23 to let them be implemented in year 5.

In general, the above 23 figures show the graphical representations of detailed outlines of the support measures that are prioritized by three and more of the Delphi participants into two rounds of Delphi processes based on the importance, feasibility and ease of implementation of each support measure against a five year timeline. Thus, the support measures were graphically demonstrated year by year in light of the five major categories/themes, such as policy-related measures, admission-related measures, and measures to access additional support services, adaptation of curriculum, instructional strategies and assessment tools, as well as provision of resources depending on the consensus of opinion among Delphi participants. As seen in each figure, the first line graph depicts the responses of participants to the first round Delphi questionnaire whereas the second one demonstrates the revised responses of participants to the second round questionnaire. Therefore, the participants have persistently improved their prior responses during the second round Delphi questionnaire after getting the summary of their initial responses (as feedback) to the first round Delphi questionnaire. As judged by Delphi participants, some support measures have been prioritized to be implemented in one particular year only. On the other hand, the majority of support measures were recommended by most Delphi experts to be persistently implemented over 2 to 5 years of the timeline.

In conclusion, as it is found redundant to include the graphic representation of the Delphi data in Chapter Six, the researcher attached this section as an addendum or Appendix 12 to provide the readers additional information about the data obtained from a two round Delphi questionnaires. Thus, this section alternatively represented the results of the first and the final questionnaires in line graphs year by year in light of the categories/themes generated in Chapter 6. In total, 23 figures were graphically represented the prioritized list of the support measures that are approved by three and more Delphi participants to be implemented over a five year period of time. Each figure, therefore, illustrates the responses of Delphi participants with two options/rounds and indicates how two sets of support measures are varied to each other. The researcher further described the data in each figure to provide the readers a brief insight about the results of the two rounds Delphi processes.