Students with Vision Impairments in the UAE Higher Education System

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Abstract

The history of the education of students with vision impairments (SWVI) has globally shown a long and difficult struggle. There have been many different stages, beginning with segregation and ending, in most countries, with inclusion. The transformation from segregation to inclusion for students with disabilities creates a dilemma about how to modify the everyday practices of education to achieve integration. Educational institutions are forced by these acts of legislation to support students with disabilities however most of them have inadequate experience in accommodating students with disabilities.

This study aims to explore the educational challenges facing SWVI in the United Arab Emirates (UAE) higher education sector through the lived experience of these students. It will also give an insight into the main challenges facing the lecturers and the university staff in providing these students with reasonable accommodation to support their studies. Exploring these experiences will help to evaluate the level of accessibility in the physical, educational and social environments for the SWVI at UAE universities.

The main research questions being investigated through this study are:

1. What are the main challenges facing SWVI in higher education sector in the UAE?

2. In what sense does the provision in UAE higher education institutions meet the special needs of SWVI?

3. What is the variation in the quality of provision for SWVI amongst the case studies conducted for this research?

4. What are the inconsistencies between Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and actual provision for SWVI in higher education?

5. How could universities in the UAE improve their provision for SWVI?

This research is based around four case studies. The first case is an autobiographical account of the author, a SWVI herself. The other three case studies were conducted at different universities in the UAE: the United Arab Emirates University (UAEU);
the University of Sharjah (UOS); and Zayed University (ZU). Data for these case studies were gathered through interviews with SWVI and observing their daily activities. Administrators and academic staff were also interviewed at these universities. Perspectives emerging from these case studies are informed by both documentary evidence and evidence from the literature in the field. The thesis concludes with a set of recommendations aimed at improving the provision for SWVI within higher education.
Abbreviations

HCT: Higher Colleges of Technology.

IELTS: The International English Language Testing System.

MOE: The Ministry of Education.


PLS: Plain Language Statements.

SWVI: Students with vision impairments.

TOEF: Test of English as a Foreign Language.

UAE: The United Arab Emirates.

UAEU: The United Arab Emirates University.

UGRU: The University General Requirement Units.

UN: United Nations.


UOS: The University of Sharjah.

ZU: Zayed University.
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Chapter One
Discussion of the problem and its context

1.1 Introduction

Higher education for people with disabilities is essential for the same reasons that it is important for those without disabilities (Fichten, Barle, Asuncion & Fissey, 2000). The experience of higher education gives students with disabilities significant opportunities to improve their independence, engage in social life, make career choices, learn how to deal with their disabilities issues, improve their self-confidence, and obtain knowledge (McBroom, 1997).

The global number of students with disabilities attending mainstream schools and universities has increased in the last two decades. The educational rights of students with disabilities are supported by legislation enforced by many governments (Hadjikakou & Hartas, 2009; Sivanesan, 2003). Consequently, universities and colleges are responsible for providing these students with reasonable accommodation for their studies (Fichten et al., 2000; Hadjikakou & Hartas, 2009). However, students with disabilities are still struggling to get the appropriate support that they need in higher education, including those with vision impairments (Permvattana, Murray & Hollier, 2006).

Vision is one of the main senses in the learning process. Around 80% of traditional education is offered in a visual mode. Therefore, students with vision impairments (SWVI) are facing many challenges to access information that is readily available for sighted students (Permvattana et al., 2006; Richardson & Roy, 2002). Armstrong (2009) argues that there is no difference between the educational achievements of sighted students, and SWVI if they are provided with reasonable accommodation. Providing SWVI with an accessible educational environment is a basic requirement for their success, and is a major factor in ensuring equity of opportunity in higher education. Nevertheless, accommodating these students in higher education represents a serious struggle in many countries, especially the countries that do not have a long history of inclusive education, such as the United Arab Emirates (UAE).
1.2 The problem to be addressed in this study

Education for SWVI in the UAE is relatively new. The education system itself is as new as the country, which was federated in 1971 (Gaad, 2006). Special education services in the Emirates started in the 1980s by segregating students with disabilities in special centres that were directed by the Ministry of Labour and Social Affairs. This policy was changed in 1996 when the responsibility for teaching students with disabilities moved officially from the Ministry of Labour and Social Affairs to the Ministry of Education. This transfer reflected a new policy towards students with disabilities, which aimed to educate these students through the mainstream institutions (Alghawi, 2007).

The inclusion policy in the UAE was formalised by the declaration of Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities, henceforth Federal Law No. (29), which guarantees equal educational opportunities for persons with disabilities within all educational institutions in the UAE (Federal Law No. (29), 2006).

Despite all these developments, provision for SWVI in the UAE higher education institutions is still not measuring up to the intention and the main purpose of Federal Law No. (29). For instance, until now, there has been no disability department at the Ministry of Higher Education and Scientific Research in the UAE. Moreover, most universities do not have educational policy for students with disabilities. Also, a large number of SWVI begin their higher education without obtaining the minimum training they need at high school. As a result, these students face different types of challenges when they start their tertiary education (Alhammadi, 2010).

This study aims to highlight the experiences of SWVI in the UAE higher education sector, and explore the main challenges facing these students during their university studies. The main purposes are to evaluate the level of provision offered to these students through their universities, lecturers and disability staff, and also to explore the challenges facing these different groups in providing reasonable accommodation to SWVI. The study also will investigate how much do the accessibility measures in the physical, educational, and social environments at UAE universities meet the special needs of SWVI. Moreover, the study will highlight the variation in the quality of provision for SWVI amongst the case studies conducted for this research through the lived experience of these students. The study also aims to explore the
relationship between the UAE legislation concerning the rights of persons with disabilities, and reality of practice for SWVI in higher education. Finally, the study aims to research the best strategies to help universities in the UAE to improve their support services for SWVI.

1.3 Research questions

The main research questions being investigated through this study are:

1. What are the main challenges facing SWVI in higher education sector in the UAE?
2. In what sense does the provision in UAE higher education institutions meet the special needs of SWVI?
3. What is the variation in the quality of provision for SWVI amongst the case studies conducted for this research?
4. What are the inconsistencies between Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and actual provision for SWVI in higher education?
5. How could universities in the UAE improve their provision for SWVI?

1.4 Importance of the study

This study derives its importance from the fact that there appears to be, until now, no academic studies in the UAE that have focused on the special needs of SWVI in the UAE higher education, and the challenges they face. Most studies in the UAE special education (see Alghawi, 2007; Gaad & Khan, 2007; Arif & Gaad, 2008; Alahhabi, 2009) have focused on investigating the consequences of inclusion in mainstream schools and completely overlook the situation in higher education sector.

Moreover, this research will add new contributions to the field of Arab education studies. There appears to be an absence of Arabian studies that deal with visual impairment and, more generally, studies that focus on disability issues in higher education.

This study will offer an in-depth description of the life of SWVI at UAE universities. It will describe the educational experience of these students, including my own, and the main challenges they face. The research aims to provide insights into the educational needs of these students from their own personal perspectives. This
information can then be extrapolated in order to understand similar situations in other countries.

Another essential component of this study concerns my own story, as a researcher and person with vision impairment. As a SWVI, I have faced many educational, social and health challenges during my educational journey. These experiences have enabled me to have the required empathy to be well-connected to my research topic and participants in this study. My own experiences also provided another rich source of data from which to compare with other SWVI in this study. Through my reading in the field of SWVI special education, I have found that very few studies were conducted by SWVI themselves in the Middle East. Being a part of my own study will add credibility to this research, and will give me, as a vision impaired person, a great opportunity to represent the voice of SWVI in an academic study.

This research will also investigate the experiences of the selected universities, lecturers and support staff in providing access to higher education for the SWVI who participated in this study. This will help the reader to understand the UAE universities’ experiences in providing access to higher education to SWVI from different perspectives. Through my reading in the field of vision impairment, I have found that most of the studies highlight the experience of only one group, and overlook the challenges facing other groups.

1.5 Research method and design

This study is based around four case studies. Three of these case studies are situated in separate higher education institutions in the UAE: the United Arab Emirates University (UAEU); the University of Sharjah (UOS); and Zayed University (ZU). The data from these case studies were gathered by interviewing SWVI and observing their daily activities. This information was supported by documentary evidence from the three selected universities.

In addition, I drew on my own experience as a vision impaired student by writing an autobiographical case study to add more insight into this research. This autobiographical account offered a historical, social and educational background to the phenomenon being studied. It also provided an in-depth description of the life of a SWVI in higher education from undergraduate study to doctoral study.
The research reported in this thesis is presented in the following chapters: the first chapter constitutes a discussion of the research problem and its context. The second chapter presents a review of the literature. The third chapter explicates the methodology and research design. The fourth chapter represents the author’s autobiographical case study. The fifth, sixth, and seventh chapters introduce respectively, the case study of the first SWVI studying at ZU, the United Arab Emirates University case study, and the University of Sharjah case study. The eighth chapter reports the study’s results and discussions. Finally, the ninth chapter concludes the thesis and proposes recommendations.

1.6 Researcher’s background

My interest in conducting a study in the area of visual impairment is in part due to the fact that I, myself, have vision impairment. I completed most of my schooling in a special centre for students with disabilities in Dubai. I then graduated from the UAE University, Department of History in 1999, and obtained my Masters degree in Emirates History from Cairo University in 2006.

I started my career as a volunteer at the Emirates Association of the Visually Impaired in 2000. Then, in 2007, I worked as a researcher in the Abu Dhabi Cultural and Heritage Authority. I also worked as a part-time lecturer at the UAE University, and as a supervisor for SWVI at the Ministry of Education between 2007-2008.

My work in the field of vision impairment gave me opportunities to meet a large number of people from different age groups who have vision impairments; to attend various conferences about inclusion in the Middle East; and to work with parents who have children with vision impairments. In addition, I, as a vision impaired person faced many challenges in my educational life from kindergarten until I finished my PhD studies. All these experiences have motivated me to investigate the reality of educating SWVI in the UAE higher education sector in order to offer insights into some of these challenges, and to give these students a voice in an educational academic study.

1.7 Definition of terms

The following identifies and defines the terms used throughout this study:
**Assistive or adaptive technology**: ‘any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities’ (Foka et al., 2011, p. 37; Kelly and Smith, 2011, p. 75).

**Braille**: ‘is a series of raised dots that can be read with the fingers by people who are blind or whose eyesight is not sufficient for reading printed material… Braille is not a language. Rather, it is a code by which languages such as English or Spanish may be written and read’ (American Foundation for the Blind, 2013).

**Braille note takers**: ‘small, lightweight, portable devices with Braille keys for entering information’. The users of these devices have the option to write a document in Braille, and then transfer it to normal computer so a sighted person can access it in normal print. Also the users can access normal Word documents in Braille using their devices (University of New Hampshire, 2010). The most famous Braille note takers are Braille Sense (HIMS, 2013), and BrailleNote (HumanWare, 2013).

**Discrimination on the basis of disability**: ‘means any distinction, exclusion or restriction on the basis of disability which has the purpose or effect of impairing or nullifying the recognition, enjoyment or exercise, on an equal basis with others, of all human rights and fundamental freedoms in the political, economic, social, cultural, civil or any other field. It includes all forms of discrimination, including denial of reasonable accommodation’ (The UN Convention on the Rights of Persons with Disabilities, Article 2).

**Higher education**: different types of education beyond the school level, especially those educational courses offered at universities and colleges.

**Orientation and Mobility**: Orientation ‘refers to our understanding of where we are currently located in the environment, in relation to where we have travelled from and where we would like to travel’. Mobility ‘relates to our ability to move safely and confidently through the environment. This will often incorporate the use of mobility aids, including sighted assistance, a white cane, or a guide dog’ (Royal Guide Dogs Tasmania, nd).

**Persons with disabilities**: ‘those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their
full and effective participation in society on an equal basis with others’ (The UN Convention on the Rights of Persons with Disabilities, Article 1).

**Print disability:** ‘people who cannot read print at all because of vision impairment, a physical, perceptual or intellectual disability, poor literacy or language problems’ (Association for the Blind of WA, nd).

**Reasonable accommodation:** ‘means necessary and appropriate modification and adjustments not imposing a disproportionate or undue burden, where needed in a particular case, to ensure to persons with disabilities the enjoyment or exercise on an equal basis with others of all human rights and fundamental freedoms’ (The UN Convention on the Rights of Persons with Disabilities, Article 2).

**Screen readers:** ‘software programs that allow blind or visually impaired users to read the text that is displayed on the computer screen with a speech synthesizer… The user sends commands by pressing different combinations of keys on the computer keyboard to instruct the speech synthesizer what to say and to speak automatically when changes occur on the computer screen’. There are a number of screen reader software packages. The most popular are Jaws, Hal, NVDA, Thunder, VoiceOver, and Window-Eyes (American Foundation for the Blind, 2012).

**Universal design:** ‘the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. “Universal design” shall not exclude assistive devices for particular groups of persons with disabilities where this is needed’ (The UN Convention on the Rights of Persons with Disabilities, Article 2).

**Vision impairment:** a significant limitation of visual capacity ranging from cases of total blindness to cases in which a person has partial vision loss that cannot be fully restored by surgery, or corrective lenses (Australian Institute for Health and Welfare, nd; Teens Health, 1995). Different types of visual impairments include:

1. **Blindness:** a total loss of vision.

2. **Legal blindness:** as best corrected, a visual acuity of 6/60 or below in the better eye (Australian Institute for Health and Welfare, nd; Teens Health, 1995).

3. **Low vision, or partially sighted:** ‘a level of vision that is 20/70 or worse and that cannot be fully corrected by wearing conventional glasses. Although people
who have low vision have useful sight, the quality of their vision interferes with their ability to perform everyday activities, such as driving, reading, and watching television. Low vision can make it difficult for people to recognize faces and images at a distance, or to distinguish colors of similar tones’ (Senior Helpers, 2010).

1.8 Chapter summary

This chapter identified the central research problem, and the research questions formulated to investigate this. It also highlighted the significance of the study, and the anticipated contribution the study results to might make to the field of higher education for SWVI. The chapter also explicated the research design and research methods and included definitions of the study’s key terms. The background to the researcher’s research interest in the study area was intended to lay the introductory ground for the autobiographical case study presented in Chapter Four.
Chapter Two
Literature review

2.1 Introduction

The main aim of reviewing the research literature is to explore what has been investigated, determine what research still needs to be conducted, and address links between theory and practice (Randolph, 2009). Research also shows that reviewing the literature should help researchers to explore recent knowledge about a research topic, and to place the research in a historical context to show the development of the phenomenon being studied. The literature review should lead the reader to understand how new research contributes to new knowledge of the field (Franklin, 1999; Hart, 1998; Lather, 1999).

The main purpose of reviewing the literature in this chapter is to observe what has been investigated in educating students with vision impairments (SWVI) in higher education generally, and distinguishing what needs to be researched in this area, particularly in the UAE.

Generally, the literature relating to provision for students with disabilities in higher education is limited compared to what has been written about inclusion in mainstream schools. Through my review of journals of special education, Internet websites, conference papers, and with Deakin University librarians’ support, I have found there to be very little literature related to SWVI experiences in the UAE higher education institutions. As such, my literature review begins with a historical background of education for SWVI worldwide from segregation to inclusion. From this historical account I will highlight the main challenges facing SWVI in higher education identified through the research literatures from the United Kingdom, Canada, the United States of America and a number of other countries. I then provide a background sketch of the UAE as a young country, and follow with a general explanation about education for SWVI in the Emirates. I then conclude the chapter with an explication of the significance of this study to SWVI education in the UAE, and suggest how the research findings contribute to the field of higher education in the UAE.
2.2 The education of SWVI from segregation to inclusion

2.2.1 Historical background

The history of the education of SWVI speaks of a long and difficult struggle. There have been many different stages, beginning with segregation and ending, in most countries, with inclusion (Sydenham & Thomas, 2009).

Historically, even though there was no real education for people with vision impairments in most early civilizations, blind people, such as Homer in Greek history, circa 850 BC, contributed to society through their poetry and storytelling. The first historical references to education for those with vision impairments were in East Asia, specifically in China, Japan and Korea, where blind people were trained to be musicians, acupuncturists, massage therapists, and fortune-tellers. The tradition of blind musicians performing at the imperial court dates back to ancient times in China (Stocky, 2000).

In the fifteenth century, human societies moved away from oral education as a result of the European invention of the printing press. However, as a consequence of new visually-based sources of knowledge, people with vision impairments became dependent on sighted people to read and write for them. For example, the English poet John Milton (1608-1674) depended on his sighted daughters to write his poetry after losing his sight (Stuckey, 2000).

The official education for SWVI started in Europe in 1784. In this year, Valentin Haüy, a middle-class Frenchman opened the world’s first school for blind students in Paris. Haüy aimed to change the lifestyle of the blind in France, especially as a large number of them worked as beggars. Haüy’s school offered accommodation, education, and jobs for blind students. This school became known as the Royal Institute for Blind Youth. Haüy became popular as a specialist in blind education in Europe. During his life, schools for the blind were opened in England, Austria, Germany, Holland, Russia, Switzerland, and Denmark. This trend in the education of SWVI was the first movement in the world to introduce the concept of providing access to education to SWVI (Louis Braille School, 2008; Stuckey, 2000).

What made Haüy so popular in Europe was his invention of a new reading technique for the blind. In his observations of blind people’s activities, Haüy noted that blind beggars could distinguish the difference between coins by touching the raised marks
on their surfaces. From this observation, he invented a new technique of printing books with raised letters that could be touched, so the blind could read them by using their fingers (Louis Braille School, 2008). This type of reading is known now as Haüy Type (Stuckey, 2000). However, Haüy’s Type was not easy to read and did not allow the blind to write. Although others created similar types of reading techniques, the most effective of these was the Braille System designed by Louis Braille (1809-1852) (Sydenham & Thomas, 2009).

Louis Braille was a blind student at the Royal Institute for Blind Youth in Paris. This school focused on providing blind children with rehabilitation training to enhance their levels of independence following graduation (Sydenham & Thomas, 2009). In 1821, a soldier named Charles Barbier introduced a new literacy system for the blind to the Royal Institute for Blind Youth. This system was called 'night writing', which was developed to enable French soldiers to read instructions at night without the need for light. This reading system, based on touching twelve dots, was too complicated and so the French army did not use it. Louis Braille adopted the main idea behind this system and improved it further. Within a few months he had developed a simpler version that utilized six dots. Several years later, he refined this system to include alphabetical, mathematical and musical characters; a system now known as a Braille reading system (Sydenham & Thomas, 2009).

Braille was modified to be compatible with nearly all written languages. The introduction of Braille represented a massive advancement in visually impaired education with the worldwide opening of many schools for the blind. These schools created new educational programs and provided training for blind students and their teachers (Stuckey, 2000).

In the 20th century, a significant achievement occurred in the field of education for SWVI. The first important development was in the area of teaching those with low vision. Before the twentieth century, there appeared to be no clear understanding of the differences between the educational needs of blind students and those with low vision. All SWVI were treated as blind even if they had some useful sight. Students with low vision attended blind schools and received their education by learning Braille. It was believed that if people with low vision used their eyes in reading, they would lose their remaining sight. Challenging this idea, two English ophthalmologists, James Keer and Bishop Herman asserted that students with low vision could use their sight to read if they were provided with reasonable
accommodation for their study materials. Consequently, classes known as ‘sight saving classes’ were opened for students with low vision in Britain in 1908 (Visiotechnology, 2007).

The second important achievement in the 20th century was the invention of audio technology. The invention of this technology resulted in remarkable changes in the educational and daily life of individuals with vision impairments. The radio, for example, became a basic source of information for a number of decades. Additionally, the invention of the tape recorder enabled SWVI to tape educational materials and lectures, thus enhancing SWVI access to higher education (Stuckey, 2000).

However, the most significant development that has increased access to education for SWVI was the invention of assistive technology. The invention of computers in the 1960s created a new technology that people with vision impairments could use to access information. Over the following years, a number of sophisticated assistive technology and software emerged in the form of screen readers (software programs that allow blind or visually impaired users to read the text that is displayed on the computer screen with a speech synthesizer), Braille embossers (Braille and tactile printers), CCTVs devices (electronic magnifiers that enlarge written or printed text for those with low vision), and scanners with optical character recognition software (devices that scan printed text and convert this into electronic text format) (Kelly and Smith, 2011, p 73-74).

These assistive technology devices have enhanced access to higher education for SWVI by enabling them to access information that is available to others and assists them to study more independently. Consequently, the number of SWVI attending universities has increased significantly worldwide (Hadjikakou & Hartas, 2009). Over this time, many countries have implemented new policies for students with disabilities. These policies have an inclusionary focus that acknowledges the rights of individuals with disabilities to be educated within mainstream educational institutions as for other students. Inclusion policies aim to offer equal access to students with disabilities from kindergarten to higher education (Torreno, 2010).

2.2.2 The movement from segregation to inclusion

Since the 1970s there has been increasing debate around the rights of persons with disabilities to have equal access to services available to those without disabilities.
The United Nations UN addressed this issue in ‘the Declaration on the Rights of Disabled Persons 1975’. According to this document, persons with disabilities have the right to gain equal access to: medical; welfare; rehabilitation; education; vocational training and any other services. In addition, the document states that the special needs of individuals with disabilities should be taken into consideration when offering these services (United Nations, 1975).

The most significant document to catalyse critically needed changes to educational policies for students with disabilities was the ‘Salamanca Statement’ emanating from the Salamanca International Conference. This conference, jointly organised by the Spanish government and UNESCO in 1994, attracted over 300 participants representing 92 governments and 25 international organisations. This conference discussed the rights of students with disabilities to have equal access to education, and to be provided with reasonable accommodation. The Salamanca Statement represents one of the most important international declarations on educational inclusion. It aimed to change discriminatory attitudes towards individuals with disabilities by promoting the notion of an inclusive society. The Statement also encouraged governments to formulate and implement special legislation to protect the rights of persons with disabilities:

> Legislation should recognize the principle of equality of opportunity for children, youth and adults with disabilities in primary, secondary and tertiary education carried out, in so far as possible, in integrated settings (Salamanca Statement, 1994, p. 17)

The Salamanca Statement was adopted by a number of international disability organisations around the world. As a result, these organisations produced significant documents and promoted the interests and rights of persons with disabilities to equal education through such initiatives as the 2004 UN Convention on Disability Equality in Education, the African Decade of Disabled People (2000-2009), and the Arab Decade of Disabled Persons (2003-2012). These documents and the promotional initiatives aimed to create an inclusive society for individuals with disabilities based on providing equal opportunities (Lloyd, 2002).

Nevertheless, the transformation from segregation to integration in educating students with disabilities created a dilemma for educational institutions. These institutions were forced by legislative acts to accommodate students with disabilities,
despite the fact that many of these institutions had little previous experience in this area. Modifying everyday practices to achieve integration represented a significant challenge for these institutions (Lloyd, 2002).

2.2.3 The gap between inclusion policy and practice in higher education

According to new legislation relating to the rights of persons with disabilities, higher education institutions should provide reasonable accommodation to students with disabilities. This should include: access to buildings; access to information; exam accommodation; classroom accommodation; and support from teaching staff (Hadjikakou & Hartas 2009; Holloway, 2001).

Riddell, Tinklin and Wilson (2005) maintain that before the 1990s, the environments provided by most universities were largely inaccessible for students with disabilities. Any adjustments made for these students represented completely voluntary efforts on the part of other students, academic staff and students’ family members. Only a small number of universities made limited provision for students with disabilities; such provision was considered the exception rather than the norm. This situation started to change in the mid-1990s in Western countries. The number of students with disabilities attending higher education institutions increased due to greater acknowledgement of a broader range of disabilities, including dyslexia. In addition, the premium funding level for disability services was increased at universities during this time; consequently improving the quality and number of disability services in the higher education sector overall (Riddell et al., 2005).

Many recent studies, however, such as Bishop and Rhind (2011) and Orsini (2009). Reed and Curtis (2012) and others, have shown that SWVI are still facing multiple barriers in higher education in countries that have long histories in both special and higher education, such as the United Kingdom, the United States, and Canada. These challenges include difficulties in accessing information, orientation and mobility challenges, teaching matters, difficulties in studying some course majors, lack of modification and accommodation for exams and the SWVI’s attitudes towards their disability.
2.2.4 The challenges faced by SWVI attending higher education

2.2.4.1 Accessing information

The ability to gain access to available information is fundamental for success in education and employment. In higher education, SWVI need to have access to the same sources of information that are available to all university students. These resources include study materials, Internet websites and textbooks. There is strong evidence in the literature that these resources may not always be offered in accessible formats for SWVI (Orsini, 2009; Permavattana et al., 2006; Strobel, Fossa, Arthanat, & Brace, 2006).

The first source of information SWVI need to access in higher education is the study materials. SWVI have differing accessibility requirements for their study materials based on their sight level and on the assistive technology they use. Materials for SWVI can be adjusted to audio, Braille, large print and electronic text format (Permavattana et al., 2006; Richardson & Roy, 2002; Sivanesan, 2003; Whitehouse, Dearnley & Murray, 2009). Nonetheless, research indicates that SWVI cannot always obtain their study materials in the text format they need for different reasons. First, not all universities provide Braille text options to SWVI due to the expense of Braille embossers. Also, not all countries have online Braille printing services. Even where these services do exist, SWVI often wait for long periods before receiving their materials in Braille (Ludi & Reichlmayr, 2008). Second, SWVI need to have special adjustments made in order to access scientific materials, or any materials that contain images. Images need to be described in clearly expressed text to enable blind, or partially sighted students to understand them. A written description of images, provided by specialists has been reported to be an effective solution for this issue; however, this service is rarely offered by universities (Bernareggi, Hengstberger & Brigatti, 2008; Ludi & Reichlmayr, 2008). Third, adjusting materials for SWVI requires a long time, and the disability support officers at many universities cannot prepare accessible materials in advance of the arrival of students. Many SWVI usually do not know what kind of materials they are going to study before the onset of the academic year. As a result, the support officers usually receive the students’ requests at the beginning of the academic year, which creates a backlog of work resulting in SWVI experiencing constant delays in receiving their materials (Whitehouse et al., 2009).
The second source of information SWVI need to access in higher education is the Internet. People with vision impairments are facing different challenges accessing Internet websites, including gaining access to graphics and images. Most Internet websites do not provide text descriptions for these images that would otherwise make them readable by screen readers. Additionally, “inconsistent layouts, fixed font sizes, and pages with poor contrast” represent other access challenges (Strobel et al., 2006, pp. 92-93). Finally, text on Internet websites is not always offered electronically in a way that assistive technology can process (Strobel et al., 2006).

Textbooks constitute the third information resource SWVI need to access. Accessing textbooks represents another serious challenge for SWVI in higher education. Adjusting textbooks for SWVI requires converting these books from normal print to electronic text format. Currently, most Western universities offer this service through a separate department within the library. However, converting printed texts to electronic format is very time consuming. Therefore, universities have started to take a great interest in obtaining textbooks in electronic text format directly from the publishers. Nonetheless, evidence from the literature shows that requesting books from publishers is more time consuming than the adjustment of materials by university staff (Whitehouse et al., 2009). Moreover, many countries still do not have any legislation that gives people with print disabilities the right to obtain an electronic copy of textbooks directly from the publishers (Orsini, 2009; Whitehouse et al., 2009).

To access all these sources of information, SWVI need to use different types of assistive technology including screen readers, magnifiers, and Braille devices. Recently, assistive technology devices have been improved to offer better access (Kelly & Smith, 2011). The use of new technology helps SWVI to increase their study capacity, productivity, independence, and self-confidence (Foka, Polgarb, Shawb & Jutaic, 2011). However, not all SWVI in higher education can obtain the assistive technology they need, due to high purchasing costs. Although some of these students use assistive technology devices at their universities (if available), they may not have access to this technology at home. Also, some SWVI are not trained in how to use assistive technology before entering universities, and many universities do not offer this kind of training. SWVI who cannot use or obtain the new technology cannot have access to new resources of knowledge, and this can adversely affect
their learning opportunities and academic outcomes in higher education (Fichten et al. 2000; Richardson & Roy, 2002).

Although access to information is significant for SWVI attending higher education institutions, it is not enough to provide these students with the all accessibility requirements they need. SWVI need to have equal access to all of the universities’ facilities; including safe access to the surrounding physical environment.

2.2.4.2 Access to the physical environment

SWVI have specific requirements in relation to their movements in the physical environment that should be considered when designing university buildings, and also when locating and signing public transport facilities. For example, research suggests that university buildings need to include: accessible elevators, accessible stairs, short distances between buildings and safe passageways to travel from building to building (West, Kregel, Getzel, & Zhu, 1993).

Moreover, SWVI need to undertake orientation and mobility training at their university before starting their studies. Through this training, SWVI need to learn how to travel safely from their accommodation to their university, how to get to the main locations at their campus, and to familiarise themselves with potential hazards within the physical environment at their university. McBroom, (1997) states that most universities do not offer this kind of training. As a result, some SWVI struggle to move easily and independently around their campus.

There appears to be a lack of research that evaluates accessibility measures for SWVI in universities’ physical environments generally. One of the main aims of this research is to evaluate accessibility measures of the physical environments at UAE universities, and to explore the main mobility barriers faced by SWVI in the UAE higher education sector.

Providing access to information and the physical environment at universities is not enough to cover the educational needs of SWVI in higher education, particularly when it comes to meeting students’ special accessibility requirements in the classroom. This means that everyday teaching practices at universities need to be adapted to accommodate SWVI learning needs.
2.2.4.3 Teaching matters

Teaching staff at universities need to have a clear understanding of the additional needs of SWVI, and how to modify their everyday practices to address these. (Orsini, 2009; Tinklina, Riddella & Wilson, 2004). There is strong evidence in the literature that teaching staff in higher education face specific difficulties in educating SWVI, such as lack of experience in teaching these students, and difficulties in providing these students with reasonable accommodation in their classes (Hadjikakou & Hartas, 2009). In addition, Orsini (2009) reports that some lecturers may feel uncomfortable educating blind students because they are not familiar with Braille literacy. Some lecturers also mistakenly believe that equality means treating all students exactly the same and ignoring the disabilities of SWVI (Tinklina et al., 2004). It is also easy in some cases for the academic staff to forget that they have SWVI in their classes, especially if a student’s impairment is not easily recognisable (Orsini, 2009).

Matthews (2009) argues that teaching and learning practices present one of the main barriers faced by students with disabilities in gaining access to higher education. Although universities try to provide reasonably good access to information and the physical environment, they do not take into consideration the requirement to modify teaching practices to accommodate the special needs of these students. As a result, SWVI face specific challenges studying some majors.

2.2.4.4 Challenges in accessing some course majors

There is strong evidence in the literature that SWVI do not have the same opportunities to choose their major study area in higher education compared to sighted students. Bernareggi et al. (2008), and Richardson and Roy (2002) report that some SWVI in Western countries avoid choosing some majors to study, especially majors that contain subjects represent a barrier for them to understand without visual assistance. Computer, Science, Mathematics, and Languages were found to be the most challenging majors for SWVI to study.

Currently, many universities in the UAE offer computer units as compulsory subjects, with graduation conditional on their successful completion. Generally, computer units contain many images that are difficult for SWVI to understand without additional explanatory text-based information. For example, Cisco and Microsoft e-learning materials usually only comprise photographs, graphs, charts,
diagrams, animation, buttons, icons and instructions for a variety of interaction methods (Armstrong, 2009).

Science and Mathematics represent other challenging areas of study for SWVI. First, the course materials for these subjects contain many images that are not easy for SWVI to read or understand. Second, not all mathematical and scientific formulae can be translated into Braille. These formulae are different from one language to another, and are not always recognised by screen readers. Third, SWVI find it difficult to participate actively in Science and Mathematics classes because lecturers usually use PowerPoint presentations that are based on images to explain subject-related information. Additionally, many lecturers find it difficult to verbally explain the meaning of visual images to SWVI (Bernareggi et al., 2008).

Foreign languages represent the third challenging area for SWVI in higher education. Obtaining books and study materials in accessible formats for these subjects represents a common barrier faced by SWVI. Adjusting materials for language courses is time consuming, and students might not receive them in a timely way. The second common issue is finding a suitable dictionary. Although some dictionaries are available in electronic format for SWVI, they are not permitted in exams. Additionally, Braille dictionaries are printed in many volumes, making it difficult for SWVI to carry around, or use in their exams. Finally, low vision and blind students usually cannot read second language materials at the same speed as they read their first language. This may make them feel embarrassed if they are asked to read in front of their classmates. They also may need additional time to complete language exams (Orsini, 2009).

Although a number of studies have investigated the challenges faced by SWVI in accessing some course majors in Western countries, there is little literature focused on this issue in the Middle East. In this study, this particular issue will be investigated by identifying the main educational challenges facing SWVI in the UAE higher education sector. This investigation will help to evaluate the level of accommodation offered to these students at their universities.

2.2.4.5 Exam modification and accommodation

SWVI have special needs for exams that can be met through modification and accommodation measures. Exam modification means changing the testing process in ways that may result in some changes to the exams’ context. An example of this type
of change is the need to provide descriptive explanatory text for any images included in the exam. In contrast, the term ‘accommodation’ means changing the testing rules to suit the special needs of the students without changing the exam content, such as providing extra time to complete exams and test writer services (Stone, Cook, Laitusis, & Cline, 2010).

Hadjikakou and Hartas, (2009) specify some exam modification and accommodation for SWVI. These include the provision of accessible exam materials in Braille, large print, or electronic formats; extra time to answer questions; a test writer; a separate testing room to endure a quiet testing environment; and the provision of assistive technology such as a screen reader, talking calculators, and magnifiers (Hadjikakou & Hartas, 2009).

Stone, Cook, Laitusis and Cline, (2010) state that adjusting exams designed for sighted students for those with vision impairments is challenging. For example, translating some scientific or mathematical symbols into a Braille format is a common issue. Moreover, SWVI who have their exam material in Braille find it difficult to compare and gather information in this text format, as Braille materials require more pages than their normal print equivalent. Adjusting images and tables is another issue. These challenges also face SWVI who undertake their exams using large print materials (Stone et al., 2010).

There is little literature about SWVI’s experiences in attempting their exams at university generally, and in the UAE higher education sector specifically. This topic will be investigated in this study by identifying the challenges facing SWVI at UAE universities. It is anticipated that the study results will generate knowledge about and understanding of the sense in which universities in the UAE meet the special exam needs for these students.

2.2.4.6 The SWVI’s attitudes

The SWVI’s attitudes include those salient to their self-identity and their disability, as well as those related to their motivation and willingness to take advantage of the support offered by their universities. These attitudes can significantly affect the way SWVI engage with interacting personal, social, and academic university environments (Bishop and Rhind, 2011).
Studies in the field of vision impairment, including those by Bishop and Rhind (2011), Orsini (2009), and Richardson and Roy (2002), indicate that some SWVI feel uncomfortable about disclosing their impairment, as they do not want to be categorised as students with disabilities. To avoid feeling embarrassed, some SWVI do not want to be treated differently from their peers. Orsini (2009) states that SWVI who have had their impairment from birth are more willing to disclose their disability than those who acquired a visual impairment later in their lives. Richardson and Roy (2002) point out that some students who have low vision do not feel comfortable about disclosing their impairment because they prefer to be treated as a fully sighted.

This critical attitudinal issue may negatively affect the accuracy of official statistics on the number of SWVI attending higher education. Some SWVI may prefer not to register at the disability department at their university (Hadjikakou & Hartas, 2009; Richardson & Roy, 2002). This situation can affect the level of provision SWVI can receive in every aspect of their university life. For example, lecturers may become aware that SWVI need special accommodation for their studies, but do not know how to support them, as these students may not identify themselves as having vision impairments, or ask for further assistance (Orsini, 2009).

Although some studies investigated SWVI’s attitudes in higher education, most of these did not highlight the role of the social culture in creating these attitudes. This issue will be discussed in more detail within a traditional Arabic cultural context later in the thesis’ results chapter.

In summary, the literature review thus far has identified significant common challenges facing SWVI at universities reported in the literatures emergent from countries that have a long history in higher education and special education. The issues around these seemingly persistent challenges become even more complicated in developing countries that do not have long experience in providing disability services, such as the UAE.

Due to the lack of relevant research, it is difficult to specify whether SWVI in the UAE higher education institutions are facing the same, or different challenges compared to their counterparts in other Western countries. A contextual account of the UAE as a relatively young country is provided in the next section to provide further insight into this topic. Following this, an explanation of the UAE’s education
system identifies some of the main challenges facing students with disabilities in this system. Additionally, a general explanation of the UAE legislation concerning the rights of persons with disabilities is offered, along with an analysis of social attitudes towards disability in the UAE. Finally, the gap between the intentions of UAE legislation concerning the rights of persons with disabilities, and the realities of practice in the UAE mainstream educational system is addressed.

2.3 The United Arab Emirates and the inclusion dilemma

2.3.1 Background about the UAE

The United Arab Emirates (UAE) is an Arab and Islamic country. It is a federation of seven emirates: Abu Dhabi; Dubai; Sharjah; Ajman; Umm Al Qaiwain; Ras Al Khaimah; and Fujairah. It is located in the Arabian Peninsula in the southern part of the Arabian Gulf. The total area of the UAE is 83,600 km. Most of this area consists of desert with very little rainfall and high temperatures (Alhammadi, 2013). The neighbouring countries are Saudi Arabia, Qatar and the Sultanate of Oman (Gaad, 2006). An appointed ruling family for each emirate controls the UAE. The highest authority in the country is the Council of Rulers, which combines the rulers of the seven emirates (Alghawi, 2007; BBC News, 2010). The UAE has a significant contemporary history that consists of dramatic developments within the past four decades (BBC News, 2010).

Historically, organised tribal groups on the southern coast of the Arabian Gulf and the north western coast of the Gulf of Oman shaped the entity of the Emirates. The people of this area converted to Islam in the seventh century. Most UAE natives belong to two tribal unions: the Qawasim and the Bani Yas, which formed in the eighteenth century (Alhammadi, 2013; Library of Congress, 2007).

By the end of the eighteenth century, dissent had grown between the British East India Company, which aimed to dominate the seaways of the Arabian Gulf, and Qawasim, which wanted to stop the East India Company shipping activities in the Gulf region. The Qawasim were defeated in this clash, and were forced to sign a peace agreement with the British East India Company in 1820. The Gulf region became well known as containing the Trucial States. Moreover, the rulers of this region were forced to sign a number of agreements with the British government; effectively putting them under British protection until independence from Britain.
was gained through the 1971 declaration of the Federation of Emirates (Alhammadi, 2013).

The UAE achieved significant developments in a very short time following federation. The discovery of oil and its exportation resulted in great changes. Abundant oil reserves have contributed vast financial resources to the region, thus transforming the UAE from a small group of states dependent on pearling, fishing, herding and agriculture, to a modern country within forty years. While the UAE economy remains strongly dependent on the exportation of oil and gas resources, the government has attempted to utilise oil revenues to support the non-oil economy.

This new fortune has attracted people from many different nationalities to reside and work in the UAE (Library of Congress, 2007). The multicultural and divergent ethnic groups within the UAE population include overseas workers; mostly arriving from South and Southeast Asia. The expatriate population also includes a large number of different Arabic nationalities, along with expatriates from India, Iran, Pakistan, Bangladesh, Afghanistan, the Philippines, Europe, America and Australia (Gaad, 2006; Library of Congress, 2007).

According to 2010 United Arab Emirates National Bureau of Statistics, the population of the UAE was 8,264,070. This figure included 947,997 nationals, representing just 11.4% of the total UAE population and 7,316,073 non-nationals (UAE National Bureau of Statistics, 2012).

The official language of the UAE is Arabic; however there are a number of other languages spoken, including Urdu, Hindi, Persian, and English, which is widely used (Library of Congress. 2007).

The citizens in the UAE obtain free health care and education, and are granted accommodation if, due to hardship, they require it. The Ministry of Labour and Social Affairs also offers financial support for unemployed divorced mothers, people with disabilities and generally underprivileged families (Bradshaw, Tennant & Lydiatt, 2004).

Although the UAE has achieved rapid development in a number of different areas, the rate of development has created a gap between the practice of Arabic traditions and the ways of modernisation. This gap is prominent in the education system of the country (Alghawi, 2007).
2.3.2 The education system in the UAE

The UAE has a short educational history compared to other countries (Bradshaw et al., 2004). The education system was developed in three stages. The first stage covered the period from 1907 to 1953. During this time, the first schools were opened informally in the Emirates, funded by donations from the pearl traders. The second stage began in 1953 and ended in 1971. During this period, the modern education system started in the emirate of Sharjah with the opening of Al Qasemia School, the first official and organised school of the region (Altaboor, 2008). The Kuwaiti government supported this school financially. A number of formal schools were opened after that time in the other emirates (Alhammadi, 2013). In 1971, the last educational stage began when Federation was declared, and federal ministries were formed. The Ministry of Education and Youth has carried responsibility for the UAE education system and has overseen the building of a large number of modern public schools across the country (Altaboor, 2008).

The UAE offers inclusive education to female and male learners from kindergarten to university. Free education is provided nationally through the mainstream system at all stages (UAE Interact, 2009). The education system has three cycles: Cycle 1 for Grades 1 to 5 (6 to 11 years), Cycle 2 for Grades 6 to 9 (12 to 15 years), and Cycle 3 for Grades 10 to 12 (16 to 18 years). Education is compulsory in Cycles 1 and 2. Furthermore, for cultural and religious reasons, females and males are segregated into different schools at all stages of the education process (Alahbabi, 2009; Alghawi, 2007).

The education system in the Emirates includes government and private sectors, both of which come under the authority of the Ministry of Education, and have an almost equal number of students (Alghawi, 2007). Expatriates founded the private school sector in order to meet their specific religious, cultural and educational needs (Bradshaw et al., 2004). Government schools adopt the national curriculum developed by the Ministry of Education to advance the development of the country and promote local values, whereas the private schools pursue their own curriculum.

2.3.3 Higher education in the UAE

The higher education system in the UAE was established in 1977 with the opening of the first university in the country, the United Arab Emirates University (UAEU) in Al Ain. Following on, the Higher Colleges of Technology (HCT) was opened in
1988 ‘to offer mainly vocational and technical programs’ (Wilkins, 2010, p. 391). Then in 1998, Zayed University (ZU) was established as the third, and most recent government university in the country (Wilkins, 2010). Additionally, in 1992, the Ministry of Higher Education and Scientific Research (MOHEASR) was formed to supervise higher education policy in the country (MOHEASR, 2010).

Government universities accept local students and a small number of international students (Australian Education International, nd). Higher education through government institutions is provided free of charge for all citizens in the UAE. Generally, the percentage of female students in the UAE universities is higher than that of male students. Ninety five percent of females register to study in higher education institutions after finishing secondary school compared to 80% of males (Aldahiri, 1998; UAE Interact, 2009). The UAE government also encourages nationals to study abroad by offering scholarships for citizens to study in several prominent Western countries overseas (MOHEASR, 2010; UAE Interact, 2009).

Moreover, UAE has a large number of private universities including the American University of Sharjah and Dubai; the University of Sharjah; and the Ajman University of Science and Technology. Additionally, a number of private universities were opened in the capital Abu Dhabi over the past decade. These include Abu Dhabi University; Abu Dhabi Chapter of the Sorbonne; and Al Hosn University. A number of international universities have also opened in Dubai: the University of Wollongong; the British University; and the Canadian University (Australian Education International, nd; UAE Interact, 2009). Most of the private universities are located in the biggest and richest emirates in the country: Abu Dhabi; Dubai; and Sharjah (Australian Education International, nd). All private educational institutions must be licensed by the Ministry of Higher Education and Scientific Research (MOHEASR, 2010).

Wilkins (2010) points out that the UAE represents an interesting case study in higher education as globally it has the largest number of private and international campuses of all foreign universities. By the end of 2009, there were more than 40 universities in the Emirates: ‘The UAE higher education market has become highly competitive and, in the private sector, supply currently exceeds demand’ (p. 389).
Although the UAE has developed its education system over a relatively short period of time, the rate and extent of the provision of special education for students with disabilities has not kept pace with these developments.

2.3.4 Special education in the UAE

Although the UAE population includes individuals with disabilities, statistical data on their actual number is unreliable. It is difficult to approximate the percentage in each disability category compared to the total population (Bradshaw et al., 2004). The UAE census system is relatively new, and it does not include statistics related to the population of people with disabilities. Therefore, the number of people with disabilities in the UAE is currently unknown (UAE National Bureau of Statistics, 2012).

Historically, educating students with disabilities in the UAE began by segregating these students into special disability centres directed by the Ministry of Social Affairs rather than the Ministry of Education. These centres first offered their services in the 1980s, and included support for different types of disabilities and a range of age groups. Government centres offered services for UAE citizens, while private centres offered services for other nationalities (Alghawi, 2007). The special centres for students with disabilities were the only educational institutions offering special education for SWVI. The lack of specialists and experienced trainers represented the most common challenge facing these centres in educating students with disabilities. Further, the centres did not offer an ideal educational environment for students with disabilities, and were in many cases, some considerable distance from the students’ homes (Torreno, 2010).

The Ministry of Education began catering for students with disabilities in 1980. The first special education services were established to assist students with learning difficulties. As a pilot project, four special classes at existing schools were opened that year to educate forty students with learning difficulties. By 1985, these special classes had been extended. Nevertheless, there was no official policy in effect at that time to cover the education of students with disabilities within mainstream educational institutions (Alghawi, 2007).

By 1996, two years after the release of the Salamanca Statement, the Ministry of Education in the UAE announced that students with disabilities would be integrated into the mainstream educational system. This decision reflected strong lobbying by
parents in concert with a growing international movement towards the inclusion of people with disabilities in all realms of society. The inclusion policy in the UAE aimed to give students with disabilities equal educational opportunities and to provide them with reasonable accommodation that catered for their special needs (Alghawi, 2007). This policy was the first step in asserting the rights of SWVI to gain equal access to education. This policy was supported by declaring, in 2006, Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities.

2.3.5 The declaration of Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities

In 2006, the UAE announced the first piece of legislation to protect the rights of people with disabilities, Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities. This law aims to guarantee equal opportunities for individuals with disabilities in health, education, work and social life by providing them with all suitable services appropriate to their faculties and abilities (Alshamsi, 2010). This document stresses the right of persons with disabilities to join any educational institution in the government or private sector. Disability must not be a reason for discriminating against or depriving any person of social services. Furthermore, it states that students with disabilities should be provided with a modified curriculum that suits their special needs (Federal Law No. (29), 2006):

The State guarantees to the persons with disabilities access to equal opportunities of education within all educational institutions, professional preparation institutions, adult education, and continuous education, whether in normal or private classes when necessary. (Federal Law No. (29), 2006, Article 12)

After the declaration of this law, the responsibility for educating students with disabilities moved officially from the Ministry of Social Affairs to the Ministry of Education. Moreover, the Ministry of Higher Education and Scientific Research became responsible for providing access to higher education for students with disabilities. This law was the first written document to give the Ministry of Higher Education and Scientific Research a role in supporting students with disabilities in the UAE (Federal Law No. (29), 2006, Articles: 12, 13 & 14).
To implement any legislation in any country, social and cultural attitudes should be supportive of this legislation. Therefore, in the next section, the social and cultural attitudes towards people with disabilities in the UAE will be discussed.

2.3.6 Cultural attitudes toward people with disabilities in the UAE

A culture is ‘a way of life of a group of people – the behaviors, beliefs, values, and symbols that they accept, generally without thinking about them, and that are passed along by communication and imitation from one generation to the next (Li & Karakowsky, 2001). An attitude is reflected in an individual’s behavior towards different situations and is formed as a consequence of personal experiences and beliefs (ABC, 2014).

Understanding cultural beliefs, and how they affect individuals’ attitudes towards people with disabilities is a significant area of inquiry in special education research. Gad (2004a) argues that cultural attitudes towards disability have a strong influence on behaviours such as whether or not people are accepting, rejecting, or critical of, and on decisions related to inclusionary and exclusionary practices. Also, cultural values and beliefs may affect the social development of people with disabilities, how they perceive themselves (Gaad, 2004b), and whether they feel encouraged or discouraged to reveal their disabilities (Mathews, 2009; Riddell et al., 2005).

There are strong links between cultural attitudes and the welfare services provided for people with additional needs (Gale Group, 2005). People with disabilities who live in countries that hold negative attitudes towards disability do not enjoy equal opportunities in education, work and social relationships (Westbrook, Legge & Pennay, 1993). In addition, Dukmak (2009) states that the way people think about people with disabilities in certain cultures, and expectations about what people with disabilities can achieve, will have significant effects on the type of services provided for those individuals.

Many studies reported in the literature on UAE special education indicate that cultural attitudes towards disability are still negative in this country in a variety of contexts. For example, Crabtree (2007) maintains that families in the UAE are still facing ‘significant social stigma’ for having children with disabilities (p. 53). Alahbabi (2009) points out that in the UAE, the integration of people with disabilities into social institutions is a kind of ‘exception rather than the norm’ (p. 43). In addition, the term ‘disability’ in the Arabic language, as a synonym for
‘special needs’, contains very negative connotations in comparison to the way the term is used in the English language (Crabtree, 2007). The term ‘disability’ in Arabic language means that the person who has a disability is incapable of doing anything. Additionally, Alshamsi (2010) and Bradshaw et al. (2004) state that people with disabilities in the UAE do not have equal employment opportunities compared to those who do not have disabilities. Furthermore, a number of studies (Alghawi, 2007; Gaad & Khan, 2007; Gaad, 2004b) suggest that including students with disabilities in mainstream schools is still not accepted in the UAE, especially for those with intellectual disabilities.

To foster an in depth understanding of the cultural attitudes towards disabilities in the UAE, Islamic attitudes towards disability should be highlighted. Crabtree (2007), in her study of family responses to the social inclusion of children with developmental disabilities in the United Arab Emirates, found that religion has a significant influence over family life in the UAE. Therefore, it is important to explain the Islamic philosophy towards disability in order to understand how much this philosophy affects cultural attitudes towards people with disabilities in this country.

Although the social culture displays negative attitudes towards people with disabilities in the UAE, the Islamic religion, in contrast, has a fundamental philosophy of accepting disability. Islamic principles do not discriminate against people with disabilities; rather, these principles encourage Muslims to provide the best care to those who have special needs (Crabtree, 2007). Within Islamic belief, people must accept God’s volition and be thankful, even in critical and difficult times. Therefore, people with disabilities are expected to accept their destiny and be grateful to God. It is believed to be God’s decision to create them in this way, and that God must have had specific foresight in creating people with disabilities (MDAA, 2008). Crabtree (2007) states some mothers of children with disabilities in the UAE view acceptance of disability as a complement to their belief in Islamic religious principles.

It appears from the findings in the literature that there is a contradiction between the Islamic philosophy towards disability and the cultural attitudes that exist in the UAE. Although the Islamic religion has a strong philosophy of supporting and accepting disability, people with disabilities are facing different types of negative attitudes, and still cannot gain equal access to education, jobs and social life. One of the reasons
why issues around disability are ongoing is that provision for people with disabilities in the UAE has always been considered as ‘a social issue rather than a basic right’ (Alshamsi, 2010, p 313). In addition, many of the negative cultural attitudes towards disability in the UAE are a reflection of a lack of awareness of disability, and how it can affect the everyday lives of people with disabilities and their families (Gaad, 2004a), as well as a lack of knowledge of the required accommodations that should be made for individuals with disabilities.

In the UAE, there are very limited services covering the social aspects of life for people with disabilities and their families. Although some organizations, such as the Zayed Higher Organisation for Humanitarian Care and Special Needs in Abu Dhabi, and Sharjah City Humanitarian Services in the emirate of Sharjah, offer early intervention services, these do not cover all the cities in the Emirates. Also some studies such as Alahbabi (2009), Crabtree (2007) and Dukmak (2009) indicate that there remains a lack of both rehabilitation services available for parents who have children with disabilities in the UAE, and guidelines on how to deal with different types of disabilities. Until recently, families in the Emirates had very limited knowledge of how to deal with the phenomenon of having children with disabilities. The birth of a child with a disability is demanding for families in this society. Gaad (2004b) argues that the most significant attitudes that affect the social life of children with disabilities come from the mothers of these children and their teachers.

However, in general, there is an insufficient literature focused on the effect of cultural attitudes on the everyday lives of people with disabilities (Westbrook et al., 1993). For example, many academic studies related to special education in the UAE, (see: Alghawi, 2007; Crabtree, 2007; Gaad and Khan, 2007; Gaad, 2004b), do not offer insights into the influence of cultural attitudes on the provision of services for students with disabilities. It appears that the majority of these studies’ findings are confined to descriptions of attitudes towards disabilities in the UAE, rather than any analysis of the reasons behind these attitudes. Furthermore, there is a lack of research on the effect of the Arabic culture and the Islamic religious belief on the everyday operational practices of higher educational institutions in the UAE generally, and for people with disabilities specifically (Richardson, 2004). This study aims to scrutinize the effects of cultural attitudes on the level of provision for SWVI in the UAE higher education sector. It is anticipated that such an investigation will help to evaluate the sense in which the social environment at UAE universities is supportive of SWVI. In
higher education, a supportive social environment is as important as a safe and accessible physical and educational environment (Matthews, 2009).

It appears from the literature that there is a gap between the intentions of the UAE legislation for persons with disabilities and cultural attitudes towards disability. This critical situation creates a gap between the UAE legislation concerning the rights of persons with disabilities, and the realities of practice in the education system in terms of the likelihood that the legislation will be accepted and implemented as intended.

2.3.7 The gap between Federal Law No. (29) and practice in the UAE educational sector

Although the UAE declared a new piece of legislation to protect the rights of persons with disabilities, in practice, educational institutions are still struggling to accommodate students with disabilities. This gap appeared most obviously in mainstream schools after students with disabilities were more comprehensively included within the mainstream educational system. The Ministry of Education in the UAE did not have a real opportunity to develop the required expertise to educate students with disabilities, because of the relatively short period of time they had to take on the responsibility for ensuring the inclusion of these students into the mainstream system. Findings from studies in special education in the UAE show that schools still operate within an education environment that is largely inaccessible for students with disabilities. As a consequence, these students, as well as their teachers, cannot get much needed provision and training (Alahbabi, 2009; Alghawi, 2007; Gaad and Khan, 2007).

Algawi (2007), in her Master’s thesis titled ‘Bridging the gap between theory and practice of inclusion in the United Arab Emirates’, points out that schools in the UAE continue to not believe in the philosophy behind inclusion. Teachers in mainstream schools are still confused about the term ‘disabilities’ and the categories attached to that term. Furthermore, a large number of the decision makers at these schools are unaware of the legislation relating to the rights of persons with disabilities. Even the school administrators, who have heard about the legislation, are not aware of the role schools need to play in providing reasonable accommodation to students with disabilities. Another issue facing these schools is a lack of longitudinal data tracking the number of students with disabilities. There are no reliable statistics on the number of students with disabilities attending mainstream schools. It is
difficult to develop a plan for supporting those students if there is no clear data as to their number or of the nature of their special needs. In addition, there is no budget for training, either for teachers or for school staff, or even for students with disabilities (Algawi, 2007).

Moreover, Alhammadi (2012) points out that SWVI struggle to get the reasonable accommodation and training they need within mainstream schools, such as accessible educational materials, accommodation for exams, orientation and mobility training, Braille training, and assistive technology. Thus, SWVI could graduate from secondary schools without receiving the minimum training they need to move on to the tertiary education level.

In the UAE most discussions around educational inclusion stress the role of schools in providing access to students with disabilities and are neglectful of the role universities and colleges also need to play. It is difficult to address the relationship between the UAE legislation concerning the rights of persons with disabilities, and realities of practice in the higher education sector. This issue informs one of the main research questions that will be investigated through this study.

2.4 Chapter summary

As explained in this chapter, the UAE is a relatively young developing country. It was founded in 1971. The education system in the UAE is relatively new, and has limited experience in the field of special education. Inclusion as a compulsory educational policy was implemented in 1996. The first national legislation concerning the rights of persons with disabilities was announced in 2006.

The UAE does not have a long experience in the higher education sector. The first university was established in 1977, and the Ministry of Higher Education and Scientific Research was founded in 1992. Therefore, universities in the UAE have not had enough time to develop the required experience in providing a high level of supported access to higher education to those with disabilities.

From reviewing the literature in different western countries, it appears that SWVI are facing a number of different types of challenges during their university studies, including those related to: accessing information; teaching and classroom matters, orientation and mobility; selecting and studying some course majors; and appropriate accommodation and modification for exams. There is limited literature about the
experiences of SWVI attending UAE universities and the significant everyday challenges they face. These issues inform the first research question investigated through this study.

Moreover, there is limited literature highlighting the role of universities in accommodating SWVI, or that attempts to understand in what sense the provision in UAE higher education institutions meets the special needs of these students. These gaps in the literature inform the second research question in this study.

Reed and Curtis (2012) illustrate that there are differences in the levels of accommodation provided by universities in Canada for SWVI. Such variations in the quality of provision for SWVI amongst the UAE universities is a further topic of interest that has yet to be reported in the UAE special education literature, and as such informs the third research questions in this study.

According to Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, universities must provide access to higher education to individuals with disabilities. However, the realities of practicing this legislation for SWVI in higher education have not yet been researched in the UAE. The fourth research question attempts to open up the nature of these realities.

Finally, and informing the fifth research question, this research aims to explore how universities in the UAE could improve their provision for SWVI.
Chapter Three
Methodology and research design

3.1 Introduction

This study aims to explore the experiences of SWVI in the UAE higher education system in order to respond to the following research questions:

1. What are the main challenges facing SWVI in higher education sector in the UAE?
2. In what sense does the provision in UAE higher education institutions meet the special needs of SWVI?
3. What is the variation in the quality of provision for SWVI amongst the case studies conducted for this research?
4. What are the inconsistencies between Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and actual provision for SWVI in higher education?
5. How could universities in the UAE improve their provision for SWVI?

In order to investigate these research questions, four case studies were conducted. The first case study is an autobiographical account of the author, who is a SWVI, and the other three case studies were carried out at different universities in the UAE: Zayed University (ZU); the United Arab Emirates University (UAEU); and the University of Sharjah (UOS). Information for these case studies was gathered from interviews with and observations of a number of participants, as well as from a number of documents.

This chapter provides justification for the chosen methodology and data collection methods employed to carry out this research. The chapter includes an explication of the methodological framework, the data collection methods, and the data analysis process. Following this explication, the chapter then provides a description of the participants, attends to ethical considerations, identifies possible limitations of the study and concludes with a chapter summary.

3.2 The methodological framework

This section’s explication of the study’s underlying philosophical and theoretical research paradigm represents a rationale for locating the project within an
interpretive research paradigm, for adopting a case study research approach, and for the selection of particular methods understood to be congruent with the research questions. The explication will first outline the underlying research paradigm. Following this, a justification for choosing a case study approach drawing on multiple cases and an individual autobiographical case study.

3.2.1 An interpretive research paradigm

Interpretive approaches to research aim to understand human experiences and interactions and provide deeper understandings of the social context of the phenomenon being studied (Cresswell, 2003). The assumption underlying the interpretive research paradigm that any social phenomenon is an outcome of human action is based on clarifying and understanding the research problem, rather than on investigating a theory or testing variables (Rowlands, 2005; Walsham, 2006). Interpretive researchers study a specific phenomenon by gathering subjectively grounded information provided by participants who have first hand everyday experience of the phenomena of research interest (Rowlands, 2005; Walsham, 2006).

An interpretive paradigm provides an appropriate inquiry context to respond to the main research questions of this study. The first three research questions that have been investigated in this study are related to the challenges faced by SWVI in their university study, the level of provision for these students, and the variations in the quality of support offered to SWVI at different universities in the UAE. These three question areas are dealing largely with the individual experiences of SWVI and the staff working in the UAE higher education sector. Investigating these experiences may lead to responses to the last two research questions, which are related to addressing the gap between legislation and practice for SWVI in the UAE higher education system, and providing universities in the UAE with some useful recommendations. That individuals interpret their subjective realities differently, becomes a significant focus of the research study.

3.2.2 Case study approach

Case studies are used widely in educational research to describe and understand specific educational actions (Kyburz-Graber, 2004). Stake (2005) states that case studies are frequently used in an interpretive research paradigm: ‘It is not a methodological choice but a choice of what is to be studied’ (p. 443).
Although general definitions of interpretive case studies are not straightforward, they can be categorised as individual accounts of human experience that attempt to explain and recognise phenomena, and that aim to make new contributions to existing theory (Pol, Bea & Roland, 2004). Yin (2009) identifies a case study as ‘an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not too clearly defined’ (p. 13).

Merriam (1998) describes the main purpose of conducting case studies as follows:

A case study design is employed to gain an in-depth understanding of the situation and meaning for those involved. The interest is in process rather than outcomes, in context rather than a specific variable, in discovery rather than confirmation. Insights gleaned from case studies can directly influence policy, practice, and future research (p. 19).

Case studies, with their capability to celebrate the particular rather than the general, are an appropriate way in which to generate the insights and understandings that characterise research within interpretive research paradigms (Rowlands, 2005). A case study presumes that by understanding phenomena from a specific social context, a researcher can provide unique details about the situation, which may lead to distinctive and more nuanced understandings compared to those from large population studies (Stark & Torrance, 2005).

A case study approach engages with the aims of this research. The research questions are designed to generate rich understandings of the challenges faced by SWVI at various stages in their experiences of attending higher education in the UAE, and to explore the universities’ experiences in providing access to these students. Therefore, it is more appropriate to conduct this research at a limited number of universities than conducting the research across a large number of universities. This approach will help to give an in-depth description of the everyday challenges facing SWVI, their lecturers and support staff at the selected universities in the UAE within the Emirate cultural and educational contexts.

The case study approach contains a number of different types. In this research, two kinds of case studies were used: multiple case study and a single autobiographical case study.
3.2.2.1 Multiple case study

Stake (2005) categorises case studies into three different types. The first one is the intrinsic case study, which is appropriate when the researcher is interested in studying one particular case, and not interested in exploring its influences on other cases. The second type is the instrumental case study, which is based on improving a theory and developing insight towards an issue rather than studying a specific case (Pol, Bea & Roland, 2004; Stake, 2005; Stevenson, 2004). The third type is the multiple case study or collective case study, which is used to investigate specific phenomena, a population, or general condition by conducting a number of case studies. These case studies may be similar or dissimilar (Stake, 2005).

A multiple case study approach drawing on three UAE universities and the author’s autobiography was used to conduct this research. In the academic year 2010/2011 contact was made with the foremost universities in the Emirates. During this time, the University of Sharjah (UOS) had the largest number of SWVI in comparison to the other universities in the UAE (more than 16 students). The United Arab Emirates University (UAEU) had the second largest number (12 students), and some universities had one SWVI, such as Zayed University (ZU), the Canadian University, Hamdan University and the American University of Sharjah. Finally, the Higher Colleges of Technology (HCT) had a few students; however, an accurate number of SWVI at HCT could not be identified, as information about these students is regarded as confidential at some campuses.

Three universities in the UAE were chosen as case studies: UAEU in Al Ain, (a large regional city in Abu Dhabi, the prime emirate of the UAE); ZU in Dubai; and UOS in the city of Sharjah. At the time this research was conducted, UAE and ZU were exploring ways to provide reasonable accommodation for SWVI. UAEU had in place a written policy regarding provision for students with disabilities and a reasonably well established disability department. Although ZU did not have a written policy for students with disabilities, it had a special department to support these students. In contrast, UOS had the largest number of SWVI enrolled compared to the other universities. Moreover, even though UOS is one of the most famous private universities in the country, it had neither a disability department nor a written policy for students with disabilities. These differences between the three case studies highlighted variations in the level of provision for SWVI at different universities in the UAE.
Additionally, these three universities have different histories in tertiary education. For example, UAEU was established in 1976, and was the first university in the country (Findlow, 2005). UOS was founded in 1997, and finally, ZU was established in 1998 (Burden-Leahy, 2009). The differences in the locations, histories and educational policies between these universities helped in exploring the differences between SWVI experiences at these universities.

As a fourth case study, the author provided a detailed autobiographical account as a SWVI who studied at three universities: UAEU in the UAE for a Bachelors degree, Cairo University in Egypt for a Master’s degree, and Deakin University in Australia within the higher degree by research doctoral program. This fourth case study aims to contribute further insight into the life of the SWVI at different stages of higher education, across different countries and different universities.

3.2.2.2 Autobiographical case study

An autobiographical story can be categorised as a part of a case study project. According to Kyburz-Graber (2004), an autobiographical case study is one approach for researching a single phenomenon and for analysing personal, social and historical backgrounds. An autobiographical story can be implemented within educational studies as an attempt to understand students’ and teacher’s experiences, to further develop pedagogical theories and practices, and to gain knowledge about cultural and family influences (Clements, 1999).

Additionally, researchers can use their own stories to improve research discussions in different ways. The researcher can be a participant in the study, or the researcher may make his/her personal journey a part of the study, and further, researchers may record their own feelings and thoughts as a part of the data analysis process (Tenni, Smyth & Boucher, 2003).

The use of an autobiographical case study is accepted in educational studies, especially in disability studies, ethnographical studies and performance studies (Tenni, Smyth & Boucher, 2003).

In this research, I used my own story as an autobiographical case study. Through this autobiographical account, I highlighted the main difficulties that I have faced as a SWVI growing up in a very traditional Arabic/Islamic society, and have illuminated my experiences of undertaking a higher degree in research in a western country. This
narrative account will provide an in depth understanding of vision impairment as a disability; and will provide an integrative link between my own voice and the voice of the research participants. This case study is intended to provide an insight into the accommodation required by SWVI in higher education.

3.3 The research methods

There are two basic elements that affect the choice of the data collection instrument: the research approach (qualitative or quantitative), and the research questions. The researcher should ensure that the data collection methods generate the types of data that are capable of responding to the research questions, and that cohere with the philosophical assumptions underlying the overarching research paradigm (Hek & Moule, 2006).

As an interpretive study, the questions formulated in this study were designed to generate rich understandings of human experiences. Therefore, qualitative methods offer appropriate instruments to conduct this research.

According to Denzin and Lincoln, (1998):

Qualitative research involves the studied use and collection of a variety of empirical materials – case study, personal experience, introspection, life story, interview, observation, historical, interactional, and visual texts – that describe routine and problematic moments and meanings in individuals’ lives. (p. 3)

In an attempt to achieve a higher level of research rigor, triangulation methods were implemented to collect the data. Because of the inherent subjectivity of this research, largely based on human experiences, using different methods to generate data through the use of case studies, helped in collecting data from different perspectives. Bloomberg and Volpe (2008) state that triangulation methods provide rigor, depth and credibility to the research data and analysis. Three different methods were used to collect data for the case studies: interviews, observations and documentary evidence.

3.3.1 Interviews

The interview is one of the most common data collection methods in education research. It is used to gather specific information about research topics that cannot be
directly observed. Researchers use this technique to ask direct questions to the research participants. This method is commonly used in either qualitative or quantitative research. Qualitative interviews can be seen as conversations between equals, and are less formal than quantitative interviews (Hüseyin, 2009; Owens, 2007; Richard & Kelly, 2000).

In this study, individual face-to-face interviews were used with all the research participants. This type of interview provided research participants with space to express themselves, and allowed me to encourage them to disclose further details when necessary. Hek and Moule (2006) argue that in face-to-face interviews the questions and guiding interview outlines can be less structured, and as such give the researcher freedom to ask questions more flexibly and to more fully explore their participants’ responses.

Interview questions were developed using different techniques, including:

1. The author’s previous experience as a SWVI who completed her schooling and undergraduate studies within the UAE educational system.
2. Some questions were developed based on reading of the literature in the field.
3. Some questions were developed through the interviews conducted with the SWVI.
4. Some questions were developed through the interviews conducted with the university staff and lecturers.

The author ensured that the questions were clearly understood by the participants. When any participant could not understand any question clearly, the author would ask the same questions in different words and give further explanation.

Although the author developed guidance for interview questions, further questions were asked during the interviews based on the interviewees’ responses.

Moreover, a semi-structured interview was implemented in this study. Hüseyin (2009) points out that in semi-structured interviews, interviewees can ask about specific topics. The interviewer can give further examples and explanations when necessary, and open-ended questions are commonly used. Using this strategy in this research assisted in the investigation of the participants’ feelings and opinions about the challenges they were facing. I used open-ended questions in all of the interviews. This technique gave the research participants enough space to express themselves,
and explain their opinions in great detail. This helped me to respond directly to their answers, and encourage them to elaborate when necessary.

Crowley (1995) divides interviews into different types. He states that:

> Interviews may be structured, semi-structured, or unstructured. They may be one-time brief exchanges, 5-min telephone conversations, or multiple, lengthy sessions sometimes spanning days, weeks, months, or even years. (p. 60)

In this research, each interview with the SWVI took approximately an hour, while the interviews with the lecturers, the university staff, and the officers at the other organisations took between 30 to 60 minutes. All the interviews with the students were conducted in Arabic, and then translated by the researcher from Arabic to English. However, some interviews with the lecturers and the officers were conducted in Arabic, and others were conducted in English. Most of the participants chose to be interviewed at their universities, or at their work places, while some students chose to be interviewed at the Emirates Association of the Visually Impaired in Sharjah.

To enhance the accuracy of the information gathered from the interviews, all interviews were audio recorded. Bell (2005) and Hek and Moule (2006) explain that audio recording is very useful in one-to-one interviews as it helps the researcher to more accurately quote directly from the interviewees, and to maintain an appropriate level of eye contact. Audio recordings allow the researcher to listen to the interviews at any time during the writing and data analysis process. However, some interviewees may not be willing for their conversations to be recorded in this way (Bell, 2005; Hek & Moule, 2006). To address this issue, I sought participants’ prior consent to audio tape our interview.

With the exception of one lecturer, all participants consented to their interview being recorded. I understood that even after giving consent, some participants may feel uncomfortable having their interviews recorded. Therefore, I explained to them that I would be the only person who would have access to these interviews, and their identity would remain anonymous. This made them feel more comfortable, and gave them enough space to express themselves. I also sent a copy of the interview transcripts to the participants to check the accuracy of their information before using
their interview responses in the research. (For more information about the interview questions, see appendix: 1, 2 and 3, p. 247-248).

Data from interviews of all participants from UAEU, UOS and ZU were used in the case studies. Only four interviews were excluded. These four interviews were carried out at HCT, but the number of participants was not enough to conduct a case study at HCT.

3.3.2 Observations

Observation is one of the key methods of data collection. It enables the researcher to observe actual situations, and describes the event while it is happening. During the observation, the researcher becomes a primary instrument, ‘consciously gathering sensory data through sight, hearing, taste, smell and touch’ (Jones & Somekh, 2005, p. 116). Information gathered by this method generally constitutes a description of the researcher’s understanding of a situation (Hek & Moule, 2006).

Observation was implemented in this study to collect more data that were not easy to be gathered through interviews. It also helped to investigate how the SWVI were interacting within the social and physical environments at their universities. Although interviews provided significant information for this study, the information is filtered through the personal bias of the participants, adding subjectivity and potentially differing from what happens in reality (Crowley, 1995). To complement this, observation is a way of exploring ‘whether people do what they say they do, or behave in the way they claim to behave’ (Bell, 2005, p. 184).

In this study I recruited a few SWVI at the three universities and spent one to two days with each student. Besides this, I also spent five study days with the student at Zayed University during different periods of the academic year 2010/2011. Through these observations, I investigated the lived experience of the SWVI at their universities. I attended some lectures with the SWVI and moved around their campus with them. This gave me a great opportunity to observe the level of provision offered to these students in their classes, in the libraries, the food court and the university hostel. Additionally, observations were made of the level of support provided by the lecturers of the SWVI, the relationships between the SWVI and other university students, the accessibility of the physical environment at each university, the level of the SWVI's independence, and the level of awareness among each university community about the special needs of the SWVI. These observations added an in-
depth description to the case studies, which helps to enhance triangulation of the data collection methods.

3.3.3 Documentary evidence

Educational documents are an important source of secondary data in both qualitative and quantitative research methods (Hek & Moule, 2006). In some research, documentary evidence may be the only source of data when there is limited or no access to the research subjects. Generally, the analysis of relevant documents can provide the researcher with significant background to the research topic and any prior research before collecting primary data (Bell, 2005). Document analysis may also help the researcher to control the research bias by reading other studies and learning from their outcomes and analysis (Hek & Moule, 2006).

In this study, the following documents were content analysed:

- Documents of legislation, such as Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE.
- Documents of protocols, such as: the UN Convention on the Rights of Persons with Disabilities.
- Unpublished documents, such as: the UAE University educational policy for students with disabilities.
- Journal articles.
- Publications of professional associations in the field of vision impairment.
- Relevant university websites: UAEU, ZU and UOS.
- Relevant websites of specialist organisations in the field of vision impairment, including Tamkeen, the American Foundation for the Blind, and the Association of the blind of WA.

The analyses of these documents provided an overview of the research topic from different professional and national perspectives. They also illuminated the types of services universities offered to students with disabilities in the UAE. Additionally, the legal documents concerning the rights of persons with disabilities were used to compare current legislation for persons with disabilities in the UAE, and practice for SWVI in the higher education system. Documentary evidence was used in this study to add a rich source of information for the data analysis.
3.4 Data analysis processes

Bloomberg and Volpe (2008) argue that qualitative researchers can organise their data differently depending on what they are comfortable with. Because of the flexibility of qualitative research and its nature, there are no specific rules regarding how data is to be managed in qualitative studies. However, in qualitative case studies, the researcher must have a permanent, accurate, and complete process for recording and storing the data (Crossley & Vulliamy, 1997).

To achieve a high level of accuracy in the reporting of the data in this research, interviews and observations were recorded and stored on multiple computer storage devices. Every interview was recorded separately, and then organised into different groups depending on the university in which the interview took place. All the observation drafts, as well as the interview audiotapes, were kept and stored to be used when necessary.

Miles and Huberman (1994) divide the data analysis process into three basic steps: data reduction, data verification, and the presentation of conclusions. In the data reduction stage, data should be edited, divided and summarised. In the verifying stage, the data needs to be categorised around themes or specific topics. In the conclusions stage, the data should be analysed and explained to verify any conclusions drawn. Pol, Bea & Roland (2004) state that when undertaking multiple case studies, the data can be divided into two different groups: data for each case study, and data for analysis across all case studies.

This technique was used to organise data for the case studies, which were then analysed to arrive at the results. First, data from interviews and observations for each university were read separately. Data from participants were summarised, paraphrased and prepared for quoting, depending on the nature of the information. Second, themes for the case studies were identified from the information that emerged from the interview responses about the main challenges SWVI were facing at their university, from reviewing of literature focused on educating SWVI in higher education, and the researchers’ experience as a SWVI at different universities.

Triangulation methods were used to analyse the case studies. Three overarching sources of data were triangulated to arrive overall results of the study: evidence from the four
case studies, the literature of the field, and document analysis. Guion, Diehl, and McDonald (2011) state:

Triangulation is a method used by qualitative researchers to check and establish validity in their studies by analyzing a research question from multiple perspectives... the goal of triangulation is to arrive at consistency across data sources or approaches; in fact, such inconsistencies may be likely given the relative strengths of different approaches. (p. 1)

Finally, to validate conclusions in the last chapter of this research, the results of the study were analysed to both respond to the research questions, and to direct the thesis argument to a logical conclusion.

3.5 Research participants

Fifty-six participants took part in this study (including the author). This research included four different groups of participants: students with vision impairments, lecturers, staff working at some universities, and officers from some organisations. Different methods were carried out to collect data from the participants include face-to-face interviews and observations.

3.5.1 SWVI

The SWVI are the main and the most significant participants in this research. Twenty-five SWVI took part in this study (including the author). Twenty-four of these students were studying at three universities: UAEU, ZU and UOS.

The contact details of the SWVI were gathered at UAEU and ZU through the disability departments at these universities. In contrast, most of the contact details of the SWVI at UOS were gathered through Emirates Association for the Visually Impaired located in Sharjah. Additionally, some SWVI volunteered to contact their friends who are vision impaired at their university and asked them to take part in this research.

The researcher contacted all the SWVI by phone before interviewing them. This provided the SWVI a clear idea about the research aims and methods, and enabled participants to give consent to participate in this research before interviewing them.
The following table (Table 1) illustrates some of the characteristics of these student participants including: gender, age, their universities, year of study, the types of vision impairments they have, and the location and the date of their interviews.

<table>
<thead>
<tr>
<th>Participant number</th>
<th>Gender</th>
<th>Age</th>
<th>Study year</th>
<th>Visual impairment</th>
<th>University</th>
<th>Location and date of interview</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Male</td>
<td>20</td>
<td>1st</td>
<td>Legally blind</td>
<td>UAEU</td>
<td>UAEU 4/1/2011</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>23</td>
<td>3rd</td>
<td>Blind</td>
<td>UAEU</td>
<td>UAEU 4/1/2011</td>
</tr>
<tr>
<td>3</td>
<td>Male</td>
<td>22</td>
<td>4th</td>
<td>Blind</td>
<td>UAEU</td>
<td>UAEU 3/1/2011</td>
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<tr>
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<td>Partially sighted</td>
<td>UAEU</td>
<td>UAEU 3/1/2011</td>
</tr>
<tr>
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<td>20</td>
<td>3rd</td>
<td>Partially sighted</td>
<td>UAEU</td>
<td>UAEU 22/12/2010</td>
</tr>
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<td>Legally blind</td>
<td>UAEU</td>
<td>UAEU 22/12/2010</td>
</tr>
<tr>
<td>7</td>
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<td>22</td>
<td>4th</td>
<td>Partially sighted</td>
<td>UAEU</td>
<td>UAEU 21/12/3010</td>
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<td>20</td>
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<td>Legally blind</td>
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<tr>
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<td>Legally blind</td>
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<td>-</td>
<td>5th</td>
<td>Blind</td>
<td>UAEU</td>
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</tr>
<tr>
<td>13</td>
<td>Female</td>
<td>-</td>
<td>2nd</td>
<td>Legally blind</td>
<td>ZU</td>
<td>(1) ZU 23/12/2010 (2) ZU 3/3/2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(3) Phone interview 30/4/2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>(4) Phone interview 14/3/2013</td>
</tr>
<tr>
<td>14</td>
<td>Male</td>
<td>21</td>
<td>3rd</td>
<td>Legally blind</td>
<td>UOS</td>
<td>Emirates Association of VI 10/3/2011</td>
</tr>
<tr>
<td>16</td>
<td>Female</td>
<td>21</td>
<td>2nd</td>
<td>Blind</td>
<td>UOS</td>
<td>Emirates Association of VI 4/3/2011</td>
</tr>
<tr>
<td>18</td>
<td>Male</td>
<td>41</td>
<td>4th</td>
<td>Legally blind</td>
<td>UOS</td>
<td>The student’s workplace 27/2/2011</td>
</tr>
<tr>
<td>19</td>
<td>Male</td>
<td>22</td>
<td>1st</td>
<td>Legally blind</td>
<td>UOS</td>
<td>Emirates Association of VI 18/3/2011</td>
</tr>
<tr>
<td>20</td>
<td>Female</td>
<td>21</td>
<td>3rd</td>
<td>Blind</td>
<td>UOS</td>
<td>Emirates Association of VI 1/3/2011</td>
</tr>
<tr>
<td>21</td>
<td>Female</td>
<td>-</td>
<td>1st</td>
<td>Partially sighted</td>
<td>UOS</td>
<td>Emirates Association of VI 3/3/2011</td>
</tr>
<tr>
<td>22</td>
<td>Female</td>
<td>31</td>
<td>-</td>
<td>Blind</td>
<td>UOS</td>
<td>The student’s home 23/3/2011</td>
</tr>
<tr>
<td>23</td>
<td>Male</td>
<td>21</td>
<td>1st</td>
<td>Blind</td>
<td>UOS</td>
<td>Emirates Association of VI 18/3/2011</td>
</tr>
<tr>
<td>24</td>
<td>Female</td>
<td>24</td>
<td>2nd</td>
<td>Legally blind</td>
<td>UOS</td>
<td>16/5/2011</td>
</tr>
</tbody>
</table>

(Emirates Association of VI is an abbreviation of Emirates Association of the Visually Impaired)
The SWVI who took part in this study have different types of vision impairments, which allowed an investigation of the differences in the challenges faced by these students depending on the level of their vision loss. Ten students were males, and 14 were females, which is a reflection of the fact that generally, there are more female students in the higher education sector in the Emirates than male students (Burden-Leahy, 2009; Wilkins, 2010).

At UAEU and ZU, most of the students who participated in this research were Emirati citizens (only four students out of 13 at these two universities were from other Arabic countries). In contrast, at UOS six students of 11 were not Emirati, though they were from other Arabic countries.

The participation of the SWVI from different emirates assisted investigation of the cultural and geographical factors in the level of support these students received inside and outside their universities. Furthermore, the students were studying different majors, which also gave an insight into the diversity of the challenges the students faced depending on the type of study they were undertaking. The majors of the SWVI were not mentioned in Table 1 to maintain the confidentiality of the participants’ identities.

3.5.2 Lecturers

The lecturers represent the second biggest participant group in this study. Eighteen lecturers from the three selected universities took part in this research. These lecturers were suggested either by the SWVI, or the disability department at the three universities. Table 2 below includes information about the gender of these lecturers, the majors they were teaching, their years of experience, the number of the SWVI they had taught until the time of conducting this study, their university, and the locations and dates of their interviews.

<table>
<thead>
<tr>
<th>Participant number</th>
<th>Gender</th>
<th>Major</th>
<th>Years of experience</th>
<th>Number of SWVI taught by the lecturer</th>
<th>University</th>
<th>Location and date of interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Male</td>
<td>Business</td>
<td>20</td>
<td>1</td>
<td>UAEU</td>
<td>UAEU 22/3/2011</td>
</tr>
<tr>
<td>2</td>
<td>Male</td>
<td>Maths</td>
<td>&gt;15</td>
<td>1</td>
<td>UAEU</td>
<td>UAEU 5/4/2011</td>
</tr>
<tr>
<td>3</td>
<td>Female</td>
<td>UGRU, English</td>
<td>25</td>
<td>2</td>
<td>UAEU</td>
<td>UAEU 3/4/2011</td>
</tr>
</tbody>
</table>
These lecturers represented a number of diverse nationalities: the UK, the USA and Canada, Egypt, Morocco, Algeria, Jordan, Iraq, and the UAE. Generally, the UAE does not have enough local education specialists in the higher education sector. Thus, the lecturers working in the UAE higher education institutions are largely from other countries. By interviewing lecturers from different nationalities it was possible to better understand the differences in the cultural attitudes towards the SWVI at the three universities.

Moreover, the lecturers had different years of experience, various majors, and taught different numbers of SWVI. These variations helped to highlight the effect of these factors on the type of challenges that faced lecturers teaching SWVI.

The lecturers contributed rich data about their experiences in teaching their SWVI, and about the level of university support they received.
3.5.3 University staff

Seven university staff participated in this research. Three were from UAEU, two from ZU, and two from UOS. The following table (Table 3) indicates the gender of the university staff participants, their positions, their years of experience, their university, and the locations and dates of interviews conducted with them.

Table 3: University staff participants

<table>
<thead>
<tr>
<th>Participant number</th>
<th>Gender</th>
<th>Position</th>
<th>Years of experience</th>
<th>Workplace</th>
<th>Location and date of interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officer 1</td>
<td>Female</td>
<td>Administrator</td>
<td>&gt;20</td>
<td>UAEU</td>
<td>UAEU 21/12/2010</td>
</tr>
<tr>
<td>Officer 2</td>
<td>Male</td>
<td>Officer, Disability Centre</td>
<td>1.5</td>
<td>UAEU</td>
<td>UAEU 15/12/2011</td>
</tr>
<tr>
<td>Officer 3</td>
<td>Female</td>
<td>Officer, Female Hostel</td>
<td>10</td>
<td>UAEU</td>
<td>UAEU 5/4/2011</td>
</tr>
<tr>
<td>Officer 4</td>
<td>Female</td>
<td>Officer, Office of Accessibility</td>
<td>1</td>
<td>ZU</td>
<td>ZU 12/12/2010</td>
</tr>
<tr>
<td>Officer 5</td>
<td>Female</td>
<td>IT Trainer</td>
<td>4</td>
<td>ZU</td>
<td>(1) Tamkeen 15/1/2011 (2) Tamkeen 25/5/2011 (3) ZU 25/9/2012</td>
</tr>
<tr>
<td>Officer 6</td>
<td>Female</td>
<td>Students Affairs</td>
<td>3</td>
<td>UOS</td>
<td>UOS 7/3/2011</td>
</tr>
<tr>
<td>Officer 7</td>
<td>Male</td>
<td>Head Office</td>
<td>4</td>
<td>UOS</td>
<td>UOS 16/3/2011</td>
</tr>
</tbody>
</table>

The university staff provided data about the difficulties facing the university support staff in providing reasonable accommodation to the SWVI at the three universities. They also provided useful information about the university disability policy at their institutions, and the adequacy of the resources available at their universities to accommodate the SWVI. This data also added further information about the SWVI and the lecturers’ experiences.

3.5.4 Officers from different organisations

Six officers participated from different organisations, including the Ministry of Higher Education, the Ministry of Education, some organisations that offer some support to the SWVI such as Tamkeen, Zayed Higher Organization for Humanitarian Care and Special needs, and Nattiq Technologies Company. The table below includes information about these participants.
The participation of this group contributed more data about the UAE higher education system, and the types of support available for universities to offer reasonable accommodation to students with disabilities. These contributions also helped to illuminate the gap between the UAE legislation for persons with disabilities, and the realities of practice for SWVI in higher education. In conclusion, these participants offered greater insights and understandings as experientially based responses to the research questions.

3.6 Ethical considerations

Ethical considerations unavoidably, and at times unexpectedly, arise during all stages of the research process including most prominently, during the collection and analysis of the data and when findings are disseminated. Ethical considerations focus on using safeguards to protect the participants’ rights by ensuring their confidentiality and preventing them from any expected discrimination (Bloomberg & Volpe, 2008).

There are a number of ethical obligations that researchers need to meet in all research involving humans and animals. In human research, these issues pertain to:

1. Obtaining informed consent from prospective participants;
2. Protection from physical and psychological harm;
3. The protection of participants’ identities; and
4. The confidentiality and anonymity of participants’ contributions (Orb, Eisenhauer & Wynaden, 2001).

Considering these issues, approval for this research project to be conducted was gained from the Human Ethics Advisory Group (HEAG), Faculty of Arts and Education, Deakin University in Australia in December 7th/2010. Project Reference
No: HEAG (AE)10-107. This approval was obtained before conducting any interview or observation.

The research participants gave their informed consent to participate through the distribution of the Plain Language Statements (PLS) and their return of the participants’ signed consent forms. Through the PLS, all participants were informed about the aims of the study, how it would be conducted, and how participants’ identities would be protected. It also detailed the types of information to be collected, the ownership of the study, as well as the data storage protocols. Moreover, the PLS was carefully verbally explained to the SWVI who could not use computers or read independently, and their participation consent was audio taped at the beginning of their interview. Before conducting any interview or observation in this study, a clear explanation of the research purpose, benefits, and methods was given to each participant.

Participation in this research was completely voluntary. The participants who were contacted were willing to take part in this study. Moreover, the participants were asked whether or not they agreed for their interview to be audio taped. Additionally, observations were only conducted with the SWVI who were willing to be observed, and they were given the right to choose the time and the location of their observations.

To maintain the confidentiality of participants’ data, a numbering system was implemented to refer to each participant. Additionally, all information that could help to identify the participants was not used in the thesis. However, Zayed University had only one SWVI when this study was conducted. Therefore, the anonymity of this student cannot be guaranteed even after using pseudonyms. When this issue was explained to the student before conducting our interview or observation, the student agreed to participate in this research. Jacobson, Gewurtz and Haydon (2007) note, ‘Treating participants with dignity might include giving them the right to be identified and to have their contributions acknowledged’ (p. 5). However, at UAEU and UOS, the number of the SWVI was large enough to keep their identity confidential.

Finally, to ensure the security of the data collected, interviews and observations were stored on three different devices. Two of these devices involved the assistive technology used by the researcher to tape the interviews (Victor Reader), and to take
observational notes (Braille Sense). The third device was the researcher’s laptop. Data stored on these devices were password protected and could only be accessed by the researcher.

3.7 Study limitations

Regardless of how meticulously researchers may plan and conduct their study, there are always inevitable limitations and difficulties in each study that need to be addressed and acknowledged (Bloomberg & Volpe, 2008). A researcher can only ever attempt to control the limitations of a study by acknowledging them, and suggesting how their effects may play into any knowledge claims the researcher makes. Limitations arise from different aspects of a study, such as a small research sample size, using limited methods to collect the research data, the researcher’s subjectivity, and participant reactivity. Stating the limitations shows the reader that the researcher is aware of the constraints relating to the research, and that the researcher has recognised possible strengths and the weaknesses of the research. Their identification may also assist readers to evaluate the study’s benefits and usefulness (Bloomberg & Volpe, 2008).

The first key issue in this study is the researcher’s subjectivity. In qualitative research, the theoretical frame, data collection methods and data analysis process are completely dependent on the researcher’s choice. Hence, it is difficult to avoid the researcher’s bias in this kind of study (Bloomberg & Volpe, 2008). However, subjectivity is at the core of an interpretive research paradigm; it is an element to be celebrated rather than obscured.

Qualitative research methods offer the researcher enormous opportunities to connect and engage with the research participants, and to make the researcher party to the phenomena being researched (Owens, 2007). In this research I, as a researcher, became an active participant though my autobiographical case study of my educational journey as a SWVI and as such may contribute to the study’s credibility and reliability. In addition, as a vision impaired person myself I was able to build strong relationships with the research participants, who treated me as a part of their group, rather than a distanced researcher.

Another key issue that needs to be addressed in this study is the limitations of the case study approach. One of the criticisms of the case study method is related to the
idea of the generalisability of the results. Stake (2005) defines a case study as a ‘typification of other cases, as an exploration leading up to generalization-producing studies, or as an occasional early step in theory building’ (p. 448). This research is not aiming to provide generalised results from the case studies, rather it seeks to investigate the experiences of SWVI attending UAE universities and to generate insights into these. Hence, it is inappropriate to attempt to generalise results from interpretive studies to broader populations.

Moreover, the autobiographical case study may have some key issues that need to be explained. Firstly, it is difficult for the autobiographer to recall long past events in detail (Clements, 1999). Secondly, the case study may present an account that reflects only what we would like others to see. A good autobiography should include rich accounts that contain the mistakes, the embarrassments, the inconsistencies – in short, the full story. Recalling and recording negative feelings could be painful for the autobiographer (Tenni, Smyth & Boucher, 2003).

To address these issues, I had a discussion with some of my old friends and classmates who shared their educational journey with me to ensure that the information I provided in my autobiography is accurate. Additionally, I wrote the last part of my autobiography, which is about my educational journey in Australia, while I was studying there. Thus, the writing of the autobiographical case study was contemporaneous with the events being described. Finally, I created a conversation with some people who did not have a close relationship with me, who were willing to read my story such as my supervisors, my editor, and another researcher from the UAE. This conversation assisted with triangulation of the autobiographical data.

Although researching my own disability in this study may add credibility and depth to this research, it also presented some challenges for me as a researcher. For example, I did not have complete access to all the online resources I required. Most of the online books were stored as images, and not all the journal articles I needed were in accessible formats. Obtaining the references I needed in electronic text format from my university was time consuming. Also, I had very limited control over my eye condition in the first two years of my PhD, which required me to intermit my studies for six months. Furthermore, this research was conducted in three different universities in the UAE that were located in different cities. There was no public transport system in the UAE. I had to use taxis to travel from one city to another, which was unaffordable for me. Although I received some financial support
from Deakin University to cover the expenses of conducting the research overseas, this only was enough to cover the travel fee inside the UAE.

Another limitation that needs to be addressed in this study is that most of the interviews were conducted in Arabic, and then translated by the researcher into English. Some phrases were difficult to translate from Arabic to English. Additionally, transcribing and translating interviews was very time consuming. I took about two days to translate and transcribe each interview, and about six months to translate and transcribe all the interviews.

3.8 Chapter summary

This chapter explicated the theoretical framework of this study and the selected methods to collect the data. It is also identified the data analysis process, ethical considerations, and limitations and difficulties of the study.

An interpretive research paradigm was adopted for this study because it aims to give insights rather than general results. To employ an interpretive research paradigm, a multiple case study approach was carried out to conduct the research. In addition, an autobiographical case study was conducted as an additional data set.

As an interpretive study, the questions formulated in this research were designed to generate rich understandings of human experiences. Therefore, semi-structured interviews and observation were implemented to collect the data within the case study settings. Document analysis generated further data to inform the research questions. These data are reported in the next four chapters of this research, which present the case studies of this research.
Chapter Four
Autobiographical case study

4.1 Introduction

An autobiographical story is a self-description about the life of a specific person. It includes information about the past, the expected future, actions and reactions, psychological history, facts, fantasies, private and public issues (Holloway & Freshwater, 2007; Tenni, Smyth & Boucher, 2003).

An autobiographical story is framed around one of five basic types of narrative inquiry: everyday story, biographical story, cultural story, collective story and narrative. The use of narrative as an inquiry approach and the use of stories generated by participants as a research method in itself, has gained significant methodological ground in research in the humanities, arts, literature and social sciences (Holloway & Freshwater, 2007; Owens, 2007). An intention to use narrative reflects the researcher’s interest in more deeply understanding a particular phenomenon from participants’ stories of their first hand experiences of this phenomenon. (Shacklock & Thorp, 2005).

In this chapter, I will use my autobiography as a case study. The story of my educational journey is intended to convey to readers my experiences of the main challenges faced by SWVI at different educational stages, from pre-school to tertiary education. However, I will focus more on giving details about my higher education experiences to make this story relevant to my research topic. In particular, this account will attempt to convey something of the socio-cultural attitudes in the UAE towards people with disabilities, and explain the influence of my personal experiences, feelings and medical issues on my academic life.

Roy & MacKay (2002) note that there are very few autobiographies written by people with vision impairments. Therefore, it is anticipated that the autobiographical case study in this research will make some contribution to research in this field and promote the voice of SWVI in the academic world.

4.2 My family and my vision impairment

I was born on 18 December 1976 in the city of Sharjah, the third biggest emirate in the United Arab Emirates. My relationship with the world of vision impairment goes
back to this first day of my life. I was born with congenital glaucoma and cataracts in both eyes. I was the second child in my family who was born with this illness. My brother, Bader, who was three years older than me was born with the same condition, but he lost all his sight after a number of unsuccessful surgeries in the UAE and overseas.

The UAE was a newly founded country at that time. The social, health, and educational systems were newly established in the country. The confounding barriers associated with providing the best support for people with disabilities in the country during this period were late diagnoses, lack of social awareness and lack of health. My family was one of many families in the UAE that suffered because of these issues.

I grew up in a very traditional family. My mother had not received any formal education. She only had a kind of traditional religious education when she was young, and she married my father when she was seventeen. My father was only a few years older than my mother, and he was fortunate to finish his primary education. My parents were third cousins. Marriage between cousins was a basic part of traditional Arabic culture in the Gulf countries. Although my family had a history of vision impairments, my parents were not aware that they might have children with any type of disability. They learnt this many years after their marriage.

Although my eyes did not appear normal, my parents did not think that I had a serious eye issue. A doctor treating me for high fever accidentally discovered the presence of glaucoma in the second year of my life. My father took me to London on one of his trips for treatment for Bader’s eyes. In London, my father was advised to agree to an urgent operation on my eyes to save my sight, but he refused to put me through any medical procedure. Due to his experiences with my brother, he was afraid that I could lose the rest of my sight if I had any surgery. As a result, the glaucoma affected my optic nerve negatively year after year. I lost most of the vision in my right eye and about half of the vision in my left eye by the age of six years, and I was under the risk of losing the rest of my sight.

During this stage of my childhood, I thought that I was fully sighted. I used to play like the other children in my neighbourhood. I didn’t understand why I could not see from my right eye. I thought that all people were just like me. I used to ask myself why God created us with two eyes if we only would need to use one. Nevertheless,
what I used to do differently than my sighted brothers and sisters was watching television. I needed to be very close to the screen to see it. I used to stand beside the television. I remember that this was so annoying for my siblings, and one day, my oldest brother bought me a chair, and he put it close to the television to make me and the other siblings more comfortable when we watched television.

I first began to get treatment for my eyes as a result of an accident when playing with my sister at the age of seven. I remember playing with my sister one day and she unintentionally put her finger in my left eye. This incident caused a small injury in my left eye, which made my mother very worried. She asked me to see the doctor at my school. The doctor gave me some eye drops, but the injury left an obvious mark in my eye. My mother was so worried that I could lose the rest of my sight, as happened with my brother, so she took me to an ophthalmologist in Al Qassimi Hospital in Sharjah. This proved to be the lucky break in my life.

At the hospital, I saw a Pakistani doctor who had a very good reputation. His name was Dr Khan. He told my mother that I should have had an eye operation early in my life, and that I must undergo urgent surgery to save the rest of my sight. My mother explained to him that my father would not accept that, due to his negative experiences with my blind brother. He asked my mother to book another appointment and bring my father with her next time. She agreed to do that. In my second appointment with Dr Khan, I went to the hospital with both my parents. Dr Khan explained to my father that I would become completely blind if I did not undergo any operation. Dr Khan explained to him that if the glaucoma was allowed to continue unchecked, my vision would rapidly deteriorate within a few years. Finally, my father agreed to allow an operation to save the rest of my sight.

I underwent cataract operations in both of my eyes at the ages of seven and again at eight, and started to use eye drops regularly and indefinitely to control the pressure in my eyes. This medical procedure saved the limited sight that I had. Also at that age, I started to wear eyeglasses. My glasses were extremely thick and I started to feel that I looked different to most children my age. I was the only child who wore glasses in my neighbourhood, and the only one in my class. I occasionally used to hear some comments from other children about my glasses. From that time, I started to feel that I was substantially different to other children in my age group. I hated my glasses. I used to wear them only at school, and took them off once I got home.
Two years after my operations, my youngest sister Manar had a very bad injury in one of her eyes. This injury caused serious damage to her retina, and that affected her second eye. Her case was very complicated. Dr Khan was not able to operate on her eyes. He advised my mother to take her to West Germany. He asked her to take me with her as well to see if there was any better treatment for me there.

We travelled to West Germany in October 1986. Both my parents travelled with us, as well as my youngest brother who was just 18 months old. We arrived in Bonn (the capital of West Germany). A very famous ophthalmologist there saw Manar and me. After examining me, the doctor concluded that I might not need any further surgery. However, he asked that I stay there and see him regularly for a couple of months. Unfortunately, Manar’s eyes were in a very serious condition. The retina was completely damaged in her injured eye, and was considered inoperable. Additionally, the retina in her other eye was affected by this injury and she was in immediate danger of becoming completely blind. The doctor could not give us an assurance that he could save her sight, but he promised to do his best.

Two weeks later, Manar underwent her first eye surgery, and required several follow-up operations. It was a very difficult experience for both of us at the time. She suffered migraines after each operation, and her body became much weaker. She was very depressed. I used to keep her company, and would often sleep at the hospital with her. I was very scared that I would have to undergo similar operations, and experience the same pain and trauma.

After a couple of months, the doctor decided that I did not need any new medical procedures, and that I could return to the UAE at any time. He gave me a prescription for new glasses, and asked me to buy them before I left. When I wore these glasses for the first time, the doctor and a few officers at the hospital told me that they suited me very well. This renewed my confidence, and I began to wear the new glasses all the time. Once I finished my treatment, I asked my father to allow me to return to the UAE. My father was not able to leave my mother and Manar to travel with me, so he sent me back to the UAE in the company of some of his friends.

I returned to the UAE in December 1986. One month later, Manar returned to the UAE with my parents without completing her treatment. The doctor wanted to give her a break before he did any further operations. He asked her to return to West Germany within six months. I remember at that time that Manar had very limited
useful sight. A few months after her return, the UAE government stopped sending patients to West Germany for treatment. My family was unable to afford her treatment in West Germany so she could not complete her treatment in the required time frame to save her eyesight.

My mother tried to arrange for funding for Manar. She met doctors and officers in the Ministry of Health, and after much effort, she succeeded in receiving new funding for her. My mother travelled to West Germany once more with Manar and my oldest brother. She stayed a couple of months there, where Manar underwent another unsuccessful operation. When Manar finally returned to the UAE, she was completely blind. She became the second blind child in my family, and I was at risk of becoming the third.

During my mother’s journey to West Germany, I became depressed and did not use my eye drops as advised by my doctors. The pressure in my eyes became dangerously high. When my mother returned to the UAE, she took me to Al Qassimi Hospital for my regular check-up. She discovered that Dr Khan was no longer working at this hospital as he had moved to a private hospital, so another eye specialist saw me. He told my mother that my eyes were under very high pressure, and that I needed to have an urgent glaucoma operation. My mother took me to Dr Khan at the private hospital, and arranged for him to operate. I was very frightened. I was afraid of losing my vision, or experiencing strong pain like Manar. I underwent yet another operation on my left eye. Thankfully, my operation went very well, and I did not experience serious pain. One year later, I had another glaucoma operation in my right eye, and after that, the condition in my eyes remained stable for almost 20 years.

In my family of eleven children, three children suffered from visual impairment. Of those three, I was the most fortunate, being the only child to keep her sight. Growing up in a family with three vision impaired children gave me great strength to accept my disability. During my childhood, my parents never treated me differently to my other sighted brothers and sisters. I never felt that my parents were ashamed of having three children with visual impairments. However, I think some of my siblings were not open to talking about our impairments with their friends. Some of them felt there was a kind of stigma associated with having three siblings with disabilities, and as such presented some difficulties for me in certain family social settings in my adolescence.
4.3 Early education

I started my educational life at the Dubai Centre for Students with Disabilities within a few months of my fifth birthday. My father enrolled me and my blind brother Bader. It was the first school offering special education to students with vision impairments in the UAE. I remember when I started at the Centre, there was no student transport services. My father took leave from his job every day to drive my brother and I from our home to the Centre until a school bus service was available shortly thereafter.

I found traveling from my home in Sharjah to the Dubai Centre in the first year of my studies to be challenging. The school bus would pick students up from their homes early in the morning, and return them in the afternoon. We used to travel during the rush hour, which meant it took over an hour to get to school. For other students, it could take over 90 minutes. On the school bus, I had to communicate with students with other types of disabilities I was unfamiliar with, such as intellectual disabilities, and hearing and physical impairments. I faced some difficulties communicating with many students on my school bus, especially those who had hearing impairment. I was not able to learn sign language. In addition, on occasions when the bus needed repairs, we were not able to attend school.

The Centre’s building in its physical layout was unlike that of regular school buildings in that it was comprised of a number of small units positioned close to each other. A small street separated some buildings that was unsafe for many students to move freely along. Also, the number of teachers at the Centre was very limited. We could not receive teaching from specialised teachers in all subjects. When I was in the primary level grades, we did not have mathematics or science teachers. When in Grades 4 and 5, there were no English teachers, or specialised teachers in Islamic religion, even though Islam is meant to be a compulsory subject for UAE students in all grades. Some teachers used to teach two or even three subjects, and occasionally, even social workers taught us some subjects.

Moreover, there were not special disability trainers at the Centre. For instance, we did not receive any mobility training to enable us to move independently and safely. Students who had some useful sight volunteered to assist blind students to find their way around. For that reason, some SWVI graduated from the Centre with very little in the way of independent mobility skills.
Another concern was that the number of students enrolled at the Centre was significantly fewer in comparison with the numbers attending mainstream schools. The total number of students at the centre was around 100 to 130 during the years of my studies, with SWVI representing the smallest group in comparison to other disabilities. There were never more than four other students in my classes. Additionally, the Centre’s students included both males and females; a situation regarded as very unusual in the UAE’s educational system. I studied with my brother in the same class from kindergarten until Grade 4. I also had a male classmate when I was in Grades 10 and 11. I was very embarrassed to speak about him in front of my family, as I was the only girl in my family who had male classmates at school.

The biggest challenge we faced during our studies at the Centre was the lack of Braille books and materials. During the 1980s and 1990s, there were no Braille press facilities in the UAE. We had only one Braille teacher at our school, and he was not able to type all the materials we needed in Braille. Thus, some of our teachers used to dictate some lessons to us, while other teachers used to audio tape our lessons. When I was in Grade 6, our school imported some Braille books from the Al Noor Centre in Bahrain. We studied the Bahraini curricula for almost two years. However, these curricula were not completely suitable for the educational purposes in the UAE.

When I entered Grade 8, my friends and I started to study the UAE curricula again, but we also began to prepare our Braille materials ourselves using a Braille typewriter. At that time, I had only two female classmates. We used to divide the books between us, and during most of the summer holidays would either go to school or stay at home to type them. Occasionally, our teachers would dictate some of the books to us. We also took responsibility for preparing Braille books for younger students. I remember typing some of my sister’s books myself. For this reason, I was not able to enjoy summer holidays like my other brothers and sisters. Summer holidays seemed like a full time job for me.

Another personal challenge I faced during my schooling was catching up with my studies after my eye operations. I had four operations in six years. I needed to leave the school for two months every time I had eye surgery. Catching up with my studies after taking this leave was a big challenge, especially as I had to prepare my materials myself for some subjects. My oldest brother and two of my teachers helped me when I returned from West Germany. My brother taught me some subjects, and
the teachers volunteered to teach me Arabic and mathematics. I needed to spend long hours studying each day after school. As a child, I did not enjoy that experience.

During my studies at the Dubai Centre, I was treated like all the other blind students. All students who had any form of visual impairment were treated as though they were totally blind. I had low vision, but I learnt Braille literacy and numeracy. I became dependent on touch and hearing in the learning process. I never realised that I could use my sight to read and write when I was in primary school. I only discovered that after my third operation. As a person with low vision, I found myself in the middle of two different worlds: the world of the sighted, and the world of the blind.

When I turned 12, one of my teachers at the Dubai Centre encouraged me to enrol at a school for adult women in order to learn how to read and write in a similar way to sighted people. This teacher was sighted, and then became blind. He provided great support for me and then for Manar during our time at the Dubai Centre and became my role model during my later school years.

I registered at an adult women’s night school when in Grade 7. I did not disclose my special needs to the school’s administration staff. I thought that I would not be accepted as a student at the school if the teachers knew about my impairment. I was able to keep my disability hidden due to the fact that the Ministry of Education directed the adult school, while the special needs Dubai Centre was directed by the Ministry of Labour and Social Affairs.

During that period, I attended two schools at the same time: the Dubai Centre for students with disabilities by day and the women’s evening school in Sharjah at night. Attending two schools at the same time was the most difficult educational experience I have ever had in my life. I used to wake up at 6 am to be ready for the morning school, and return home at 1 pm to have lunch and complete my homework; be ready again at 3 pm for the night school, and finally return home at 8:30 pm to have dinner and then go to sleep. I had homework tasks to complete at two schools, and spend most of the day away from my home. I felt incredibly isolated from my family and that I was losing my strong connection to my brothers and sisters. I never explained to my teachers in either of the schools the reason why I was not always able to finish my homework on time.
I began exploring the reality of my impairment whilst at the night school. I was not able to do what my classmates could do. I was not able to see the board easily, nor read and write as fast as they could. Also, my handwriting was not as legible as theirs. That one of my teachers used to harshly criticise my handwriting in front of my classmates made me feel extremely embarrassed.

I studied at the night school for two years. During this period, I learned literacy and numeracy as other sighted people did. However, as a consequence of my dual student life, my educational standards at the disability centre suffered. Therefore, I left the night school when I entered Grade 9. To continue developing my reading and writing skills, I began to read printed textbooks and found this helped me to be very independent in my later higher education studies.

I completed my education at the Dubai Centre for Students with Disabilities when I finished Grade 11. When ready to enter Grade 12, my classmates and I asked the Centre to integrate us into a mainstream school. Moving from a special centre for students with disabilities to a mainstream school represented a big change in my educational life. I moved from a school that contained around one hundred students to a school of more than one thousand, and from a class of four students to one of 30. In the first month of studies at the new school, I did not socialise with my new classmates, nor make any attempt to make any new friends. I felt that I was too different from the other students. My blind friend and I were the only students with disabilities in Grade 12.

In addition, the school building was not accessible to SWVI. I personally found the building too big, and I was not able to manage my mobility easily. During my time there, I only learned how to move from the main school gate to my classroom, the social worker’s room, and the principal’s room. I wasn’t able to find my way to the other parts of the school, as I had never received any initial mobility training. As before, nobody really knew what type of training we needed to attain full mobility as SWVI. My blind classmate and I had very good Braille skills, but these were not enough to help us become fully independent in our daily activities.

The teachers at this mainstream school had limited knowledge about teaching SWVI. They did not know what kind of reasonable accommodation we needed. Most of them did not allow me to read using my eyes as they assumed this would adversely affect my sight. Additionally, I did not receive any extra time for my examinations.
In order to complete my exams, I needed to firstly type the exam questions in Braille with the help of the examiners, type my answers in Braille, and then dictate my answers to the examiner, who would record these on paper. This was a long and laborious process that could have been made easier had I been allowed to take additional time. Although my typing speed in Braille was very good, this did not help me to finish all my exams on time.

I graduated from high school in 1994 with three of my classmates from the Dubai Centre. At that time, there were only two public universities in the Emirates, the United Arab Emirates University (UAEU); and the Higher Colleges of Technology (HCT). The notion of making education available for SWVI at public universities in the UAE was new and not accepted by all educators during this period. Most of my visually impaired friends who graduated from high school travelled to other countries to complete their higher education. However, two of my classmates who are visually impaired and I decided to study in the UAE.

4.4 University studies

After my graduation from high school, I applied to study at the Higher Colleges of Technology (HCT). I called the Admission Department at HCT and explained my special needs to them. As a condition of enrolment at the college my English skills needed to be assessed through an oral English exam. After this, the Admission Department at the HCT Dubai branch decided that they were not ready to receive any SWVI because they did not have accessible computers for them. All the majors at HCT required very good computer skills. After receiving this news, the only choice I had was to apply to study at UAEU.

My application to study at UAEU was accepted. I chose to study in the Education Faculty, and I selected Special Education as my course major. In the academic year 1994-1995, four female Emirati students with visual impairments, including myself, registered to study at UAEU. The Registration Department at UAEU had not received any advice relating to our special needs. Some administrators at the university panicked when they learned of our disability. As new students, we needed to do a foundation year, which included studying English, Arabic, mathematics and computer courses as prerequisite units to get into any course major. Most of these courses required the use of computers. As the university did not have an accessible
computer for SWVI at that time, these regular courses were replaced by other courses including anthropology, astronomy, biology and Islamic social studies.

Additionally, most educators at UAEU at that time believed that SWVI are only capable of studying majors within the Faculty of Humanities and Social Sciences, such as History, Arabic, Islamic religion, and English literature. Thus, we did not have an opportunity to choose our study area like other students. The only choices we were given those in the Faculty of Humanities and Social Sciences, and the Faculty of Sharia (Islamic Law). As a result, I needed to change my major. Some Faculty of Education administrators believed that I would not be capable of studying education. I was told that this particular major required undergoing some training at schools; training they believed SWVI could not undertake. I had very limited choices, so I chose to study a History major, as history was my strong point in high school. I was frustrated that I could not choose my university, or have a greater choice of course majors.

In the first year of my studies at UAEU, the university hired a blind officer to provide the SWVI with the provision they needed. This officer, although blind himself, had no idea what kind of support should be provided to SWVI at the higher education level, nor did he know the difference between what should be provided to partially sighted students and fully blind students. In addition, he did not have any experience in adjusting normal print materials to Braille or large print formats. Further, he did not seem to be aware of the special provision we needed for our exams such the need for a quiet exam room, test-readers and accessible exam materials. Thus we did not get any benefit from having him on campus. A few years later, this officer left the university and another officer also with vision impairment took over. The new officer also had limited experience in relation to how our needs should be accommodated and again we could not gain the support we required. Although UAEU administrators at that time assumed that any officer with vision impairment would be capable of supporting SWVI, this was not what we experienced.

The first two semesters of my studies at UAEU were extremely difficult. My blind friend and I faced new challenges that we had not expected. The university was very far from our home city of Sharjah, so we had to stay at a female hostel during the week and travel to see our families at the weekend. There were five female hostels at UAEU during this time. I chose to stay at the same hostel as one of my blind friends.
and share the same room. My blind friend’s sister was also living at the same hostel. She had many friends, and as I had built up very good relationships with many of them, I felt this helped me to quickly adjust to university life.

During that time, my blind friend and I enrolled in the same units and studied in the same classes. My friend was fully dependent on me for her mobility. Although I had relatively good sight, I experienced some difficulties in mobility myself, as I had in high school. I found the university campus very big, and I could not find my classes easily. I arrived late to some classes as it took me a long time to locate the buildings, especially as each class was located in a different building. I needed two months to build up my familiarity with the university campus and the female hostel. I thought that I was not as smart as my sighted friends because I could not easily remember the location of the buildings and classrooms I needed to access. It never occurred to me to link these issues to my impairment.

Furthermore, we had to adjust our materials to our study needs ourselves. Although we used to do this at school, it was completely different at university. At school, we used to divide the books between us and prepare them during the summer holidays. At university we were given our materials after each semester had started, and we could not share materials as we studied different majors. I think I was luckier than my two blind friends, because I was able to read large print. I made the adjustments I needed on my own by copying some materials onto A3 paper and typing other materials in Braille; adjustments that were expensive and very time consuming.

Note taking was another challenge. Some lecturers did not have any written materials for their courses. They would ask us to take notes during their classes, or dictate information in their lectures. I was not able to write as fast as sighted students. I used to record some lectures, and transcribe these in Braille. I needed around three to four hours to write the transcript for each lecture. Also, some lecturers felt uncomfortable being audio recorded so they did not allow me to record their lectures. In these instances, I used to borrow notebooks from my classmates, but I could not read them myself because I could not read the handwriting. I used to ask my friends at the hostel to dictate these notebooks to me, a task that also took considerable time out of my regular studies.

Another issue I faced was completing assignments. I was not able to make a reference list when I needed to because I could not use the available computers. Even
when I had my own reference list, I was not able to find the books in the library myself because I could not read the labels on the books. I always needed assistance in the library, so my friends used to help. Additionally, as my handwriting was not clear enough and I could not type on the computer, I was not able to write the assignments myself. I needed to write my assignments in Braille, and when finished, I would dictate them to a friend who would then write them in normal text. Thankfully, I was always able to submit my assignments on the due date. I learned to be very determined and well organised. I did not want my lecturers to think that I was not capable of doing what other students could do.

Furthermore, I needed to organise the assistance I needed for my exams myself. I preferred to do my examinations in Braille in a private room. In this case, I had to ask the Assistant Dean’s secretary the day before each exam to arrange a private room for me. For my Braille exams, I received extra time and I was able complete my exams in a very quiet environment. After each exam I would read my answers back to my lecturers. Most of my lecturers accepted that, but some of them did not. Some of them asked me to write my answers in normal text myself. That meant that I had to do the exams with other students, which was very difficult as I did not receive my exams in large print materials, and because I had same time restrictions as the other students. Also, because of distracting noises in the exam halls, I was not able to concentrate very well. I put this down to increased sensitivity in my hearing that may have occurred as a form of sensory compensation. Further, I experienced strong back pain during my exams, because I had to put my head very close to the paper to see my writing. Other lecturers asked me to arrange for a test-writer to sit next to me in the exam room so that I could quietly dictate my exam answers. This was not a good option for me, as I had to find someone who was free during my exam time, and willing to assist. I felt uncomfortable asking my friends to help and apprehensive about asking other people for assistance.

I also felt uncomfortable explaining my special needs to the academic staff, especially as I had to do that every semester with every new lecturer. I was always worried about my lecturers’ attitudes towards my disability. Although some lecturers were very supportive and understanding, it seemed others felt pity towards me once they knew about my impairment. This response made me feel uncomfortable especially as some of them treated me differently to my sighted classmates. Some
lecturers even seemed to panic because they had not taught a SWVI before, and appeared not have any idea about how to make provision for our learning needs.

All these challenges were completely new for me, and as a result, I did not enjoy my first year at university. I felt that I was under a lot of pressure to undertake many extra preparatory activities to support my studies within short spaces of time. I had to prepare my materials, arrange for exam assistance, ask my friends for extra help to complete my assignments, and explain my special needs to the academic staff. Although the administrators at UAEU were very emotionally supportive, I did not receive all the provision I needed. As a result, I often considered leaving the university in my first semester. However, at the end of the semester, when I received my results and saw that I had passed all my courses with very good grades, I decided that I would continue on. University life had become a sort of challenge for me.

The second year of my studies at UAEU was easier for me. I was fully aware of the challenges I would face, and how I could make the required adjustments. I had more self-confidence, and I started to enjoy my life at the university. In contrast, second year was more difficult for my blind roommate. We enrolled in different subjects, and I was not able to assist her with her mobility all the time as I had in our first year. Our sighted friends and I helped her to arrange her mobility, but we could not cover all of her academic special needs. She was studying English literature, and none of us could read or write English fluently. One semester later, she hired a sighted assistant from the Philippines to help her with her studies and mobility. She got special permission from the university administration to keep her assistant with her in the same room, and to allow her to attend the lectures with her, but my blind friend became fully dependent on her assistant to cover her special needs. Her assistant used to audio record materials, take lecture notes for her, assist her with her mobility, and even write the exams for her.

Compared to my blind friend, I think my special needs were not fully understood by the academic staff and my classmates. It was hard for them to understand how much I could see, and the types of assistance I needed. I think I was responsible for their misunderstanding. I was not open to explain my impairment. I didn’t want other people to recognise my disability, especially my classmates. I did not want to feel that I was different to them. Thus, I tried to act like a fully sighted person.
4.5 After university

I graduated from the United Arab Emirates University on July 1999 with a Grade Point Average (GPA) of 3.51. A few months later, I applied for a scholarship at the same university. The purpose of this scholarship was to sponsor students to study overseas, and then employ them as academic staff at UAEU when they finished their Doctorate of Philosophy. Doing a higher degree by research was always my dream when I was an undergraduate student. I did not have much confidence that I would be accepted in this program because of my impairment. Four lecturers at UAEU interviewed me in February 2000 to evaluate my personal and academic abilities. Three of my interviewers were completely unconvinced that I could do a higher degree by research as a SWVI. They believed that I could not live independently in a Western country, learn English as a second language and learn how to use computers. Only one of my interviewers was supportive. She was the only interviewer who had taught me and knew about my academic skills. However, I could not convince the other three interviewers of my abilities. They were judging me for being vision impaired, and only looked at my disability.

I was not the only vision impaired student who graduated from UAEU in 1999. My blind friend also graduated in the same academic year. A few months later, one of my classmates from the Dubai Centre graduated from another university. The three of us found it very difficult to find jobs. I applied to work at places including the Ministry of Education, the Ministry of Social Affairs, some museums, and some private schools. I gained an interview at the Ministry of Education, and my application was rejected because of my impairment. In the two years I spent looking for a job the biggest obstacle I faced was the cultural attitudes towards people with disabilities in the UAE. It was believed that people with vision impairments were not capable of doing what sighted people could do. All my friends who are vision impaired and who finished their university studies at the same time could not find a job in their respective fields. My blind friend who studied English literature worked as a telephone operator, and my other friend who graduated from the History department worked as a Braille editor at the Blind Press. Neither of them earned very good wages. I did not receive any offers of work at all, even with low wages.

In 2000, I volunteered at the Emirates Association for the Blind (known now as the Emirates Association of the Visually Impaired). Until this point, the entire
association was made up of males, but a few females, including myself, joined that year. Many of the Association’s members at that time were my schoolmates from the Dubai Centre. We wanted to establish new activities at the Association, and find new ways to raise the level of awareness of vision impairment among Emirati society. My voluntary work at this association was the first step for me to work closely with SWVI from different age groups. I volunteered to be a Braille trainer, and also helped to organise some other activities. Through my occasional meetings with students’ parents, I gained insights into the challenges faced by parents in raising children with vision impairments, and the challenges faced by SWVI in the education sector.

In the same year, I undertook a short mobility training course in Abu Dhabi. I learned how to use a white cane as a mobility tool, and I discovered why it is important for me as a vision impaired person to use it even though I have some useful sight. During this training, I had to cover my eyes and learn how to manage my mobility in a similar way to blind people. I found it very difficult to move without using my sight. As part of my training, I had to use the cane in some public places such as shopping centres, streets, supermarkets and gardens. Many people used to stare at us during our training. Being stared at by other people made me uncomfortable, and that was the main reason for me to discontinue the use of white canes after I finished this training.

After my graduation, I started to learn how to use computers in order to prepare myself for postgraduate studies. I took a computer course for beginners to learn the basics of using computers. I trained myself to touch-type and to use Word software.

Additionally, in July 1999, I undertook an English course at a private institute. I did not explain my impairment to the institute because most of the English institutes in the UAE did not accept SWVI in their courses. In order to study this course I copied my materials onto A3 paper, and practiced a lot at home. I found out that I had a serious issue in my attempt to write in English, as I had been completely dependent on my hearing from the time I began to learn English at school. My English teachers were not able to check my writing because they could not read Braille. I did not know when to use capital and lower case letters, nor the difference between English and Arabic punctuation. Through this course, I found that sighted students were able to get very rich feedback about their English writing from their teachers compared to that received by SWVI.
One year after my graduation, I applied for a scholarship to study overseas through the Ministry of Higher Education. I tried to find an alternative way to complete my studies after I missed out on the opportunity to do so at UAEU. I chose to take up my scholarship at Cairo University in Egypt. A few of my blind friends had studied in Egypt, and they returned with strong self-confidence and high levels of independence. I wanted to obtain the same experience and become more independent. My application to study in Egypt was accepted by the Ministry of Higher Education in 2001.

4.6 Masters degree in Egypt

I was the first female in my family who decided to study overseas. My father was very open about women’s rights in comparison to many Emirati men his age. He believed that women have the abilities to do what men can do. Additionally, my oldest brother Salman supported me. He took leave from his work to travel with me to arrange my accommodation in Egypt.

Salman and I travelled to Cairo in September 2001. Our first impression of the city was that it was not very well organised. Drivers would cross intersections even when traffic lights they faced were red. There were no pedestrian crossings and the streets were very crowded. There were different types of public transport including buses, a subway and trains, but none were accessible for people with disabilities. The only public transport option I had was to take a taxi. Taxi prices were cheaper than what I was used to paying in the UAE; however, I had to learn how to estimate normal prices, because the taxi drivers in Egypt were not always honest with foreigners about their real fares.

The female hostel for Emirati students in Cairo provided free transport and a high level of security and was only 15 minutes’ drive from Cairo University. Salman and I decided that this hostel would be my best accommodation option. So I decided to stay at this hostel until I finished my Masters degree.

Before starting my Masters degree, I was interviewed by some academic staff at Cairo University. I did not inform them about my special needs, as I was worried that the university would not accept me into the Masters degree program if they found out about my disability. I developed this kind of attitude after my bad experience at
UAEU. I was accepted into the Masters Degree program in the History department at Cairo University and started my studies one week after my interview.

Cairo University was a new educational environment for me as both male and female students were accepted; a situation quite different to the UAE. Also, relationships between students and academic staff did not seem as friendly as those we were familiar with at UAEU. There were a good number of SWVI studying at Cairo University, but these students were not well supported. The only provision made for them was to provide them with a test-writer for their exams. In addition, some academic staff treated students with disabilities with a high level of pity. I did not want to be treated in that way, so I did not disclose my impairment or ask for any adjustments to my study materials.

I was able to easily arrange my mobility on campus as all my classes were conducted in one building and were close to the main university entry gate. The hostel’s transport service made my mobility much easier.

As a Masters student at Cairo University, I first had to complete a general diploma in modern history, and then write a 200-page thesis have my degree awarded. In the first year of my studies, I copied most of my materials using large fonts, and I attempted all my exams alongside my classmates. Although I was not able to write the lecture notes as I could not write quickly enough, one of my classmates offered her generous assistance. She would dictate her notes to me so I could write them in Braille. However, I could not completely cover my special needs for one of my subjects, Documentary Studies in English as we were expected to read and analyse old English documents that were not in a form that was easily adjusted for SWVI. Even after I copied the textbook into a larger text, I was not able to read it easily. To counter this, I tried to obtain the information for this course by reading the Arabic translations of the documents.

I passed all my subjects in the first year successfully, and then I submitted my Masters proposal *Britain and the Administration in the Trucial States 1947-1965*. The data for this research were expected to be collected through contemporary British records as well as through some Arabic and English language books. I faced two new challenges: using libraries, and reading the old British records.

Most of the libraries in Egypt during the period of my Masters degree were organised according to a very old-fashioned system. They did not have websites or even
electronic reference lists. Reference information written on small cards was unreadable to me. In addition, I was not able to find the books I needed because I could not read their identifying numbers. I collected my references from only two libraries: the private American University library and the public Arab League library.

The well-organised modern American University library offered helpful staff and the references I needed were all located in one section. The smaller Arab League library was also easy for me to use. All the Arabian Gulf history books were organised into two sections. I also collected useful references from some UAE public libraries. I found it was easier to work in the smaller and better organised UAE libraries compared to the Egyptian libraries.

After I collected most of the references and documents I needed for my research, I struggled to read these. This was particularly so for the English documents. I realised that reading in my first language was much easier for me than reading in my second language. Using large print, I copied all the English references and some of the British documents onto A3 paper. Nevertheless, I was still not able to read the British documents easily. I needed to translate some chapters and many documents from English to Arabic. I was not able to use the English-Arabic dictionaries, as the fonts were too small. To counter this, I used a private English tutor to help me read and translate the British records, and paid a private translator to translate some English references into Arabic.

My efforts to make references and documents more easily accessible turned out to be very expensive and time consuming. I could not read other people’s handwriting easily, even if comparatively clear. As I could not read my translator’s hand-written notes, I needed to find another person to print them on a computer. The translation services and printing processes incurred further time and expense. In addition, I spent around twelve hours with my tutor every week. He would read the documents for me, and then translate them from English to Arabic. As he read the document to me I used my laptop computer to type the Arabic translation. In this way, I translated hundreds of British documents and all the English references I needed for my thesis.

It took me around three and a half years to research and write my Masters thesis. During this period, I studied some English courses at the American University in Cairo. I adjusted the English materials I needed for these courses myself and asked my teachers to provide me with A3 format exam materials. My decision not to ask
for extra time to complete my exams adversely affected my course results. I struggled to finish the reading parts on time, and I left some questions unanswered. I was just not quick enough to answer them.

As a basic requirement for my Masters degree, I needed to sit a TOEFL (Test of English as a Foreign Language) exam. I attempted this exam four times at different universities in Cairo. I had not developed the appropriate English skills to be successful in TOEFL and was never provided with sufficient exam support. For example, some universities provided me with large print exam material without allowing any additional time, whereas other universities provided me with additional time without large print material. I also found that I was not able to read through the listening and the grammar questions, and then answer them all on time. I found the reading part also very difficult because I could not read for a long time without my eyes hurting, even if I was provided with large font materials. I could only complete half of the comprehension questions in the allocated time. I finally achieved a satisfactory grade on the TOEFL exam before my Masters dissertation was submitted.

I finished my Masters degree at Cairo University in July 2006 achieving an overall ‘excellent’ grade. This outcome encouraged me to consider undertaking a PhD in a Western country. It had always been my dream to research history of the UAE in the UK, as Britain had a historical relationship with the Arabian Gulf countries. However, I decided to first gain some work experience before attempting my PhD.

4.7 Working in the UAE

After finishing my Masters degree, I searched for a job in in a number of Emirates. I could not find a job for almost a whole year. I applied to work as a teacher at the Ministry of Education, and yet again my application was rejected on the grounds of my disability. I did further voluntary work at the Emirates Association of the Visually Impaired. I participated in a few local and international conferences that discussed new issues around the inclusion of SWVI in mainstream schools. I found myself highly interested in this area, not as a researcher, but as a vision-impaired person. I wanted to know more about my disability. I began to think more deeply about the possibility of losing my sight as I became more dependent on my sight for reading and writing during my Bachelor and Masters degrees.
I began to read more and more about visual impairment. I found out that many partially sighted people shared the same concern as me about losing their sight. I was worried about losing my ability to read and write, and with this my independence. Thus, I took a computer-training course at Tamkeen Centre in Dubai to learn how to use Dolphin SuperNova, a screen reading software package. It took me around three months to become proficient in using this screen reader as this demanded I develop my listening skills as a means to understand information, rather than through reading.

Additionally, I undertook new mobility training, and again began to use a white cane. This training gave me new insights into what I could do as a vision impaired person, and what I could not do. Understanding the reality of my disability finally made me more willing to talk more openly about my visual impairment, and to use the white cane as a walking tool.

While at my volunteer work, I taught Braille to SWVI through the Emirates Association of the Visually Impaired. These students needed specific support that was not available at their mainstream schools. At that time, the Ministry of Education did not have an officer to cover the special needs of the SWVI. Therefore, I met the head of the Disability Department at the Ministry of Education, and convinced her to create a position for me.

I was interviewed at the Ministry of Education in June 2007. However, I waited for almost four months before I was offered a job. While I was waiting, an Emirati manager at the Abu Dhabi Authority for Cultural and Heritage Studies offered me a part time job at UAEU’s Al Marfa Campus. He also offered me a full time job as a researcher in his department. I accepted his offer, as it was the first offer I had ever had in the UAE. I worked as a lecturer at UAEU for one day a week, and as a researcher four days a week. My work placements were a very long way from my home city Sharjah. I stayed at my aunt’s house in Abu Dhabi during the week, and travelled to Sharjah for the weekends.

Six weeks after I began my work in Abu Dhabi, the Ministry of Education contacted me and asked me to start my job as a supervisor for SWVI at mainstream schools. My manager at the Abu Dhabi Authority for Cultural and Heritage Studies wanted me to keep working at his department as a part-time researcher. So I found myself working three jobs at the same time: a part-time lecturer at UAEU, a part-time
I was responsible for 150 SWVI all over the UAE. It was a huge number of students for one education officer to support alone. In this role, I offered Braille training to a few students. I also met other teachers and developed seminar presentations to increase the level of awareness about the need for adequate provision for SWVI among educators in schools. In addition, I established a communication network between the Ministry of Education and other organisations supporting SWVI such as the Blind Press in Abu Dhabi. Despite these efforts, I was not satisfied with the level of provision for these students. I believed we needed to create a new inclusionary focused educational support system for these students. However, to carry out such an ambitious plan, I realised I would need to complete a PhD in this special education area and learn how to conduct research in the field of vision impairment.

I applied for a scholarship to undertake a PhD in the field of visual impairment overseas at the Ministry of Higher Education in the UAE. I was interested in studying the Western model of visual impairment support and to develop experience in this area. Most of the scholarships in the UAE were allocated to five countries: Australia, Canada, France, New Zealand and the United States. To narrow my choices, I first removed France, as I didn’t want to learn a new language. Canada and New Zealand were too far away from the UAE and much too cold. This left me with a choice between the USA and Australia. One of my blind friends highly recommended Australia as he had enjoyed highly positive experiences when studying there. Also, my family did not feel comfortable about the idea of me studying in the USA, as they believed that Muslim people could face some discrimination after the 11 September attacks in 2001. So it was that I applied to study in Australia.

I emailed one of my friends at the Blind Union and asked him about reputable Australian universities with research interests in the field of special education. I contacted the universities he had recommended, but most were not able to provide a suitable supervisor for my particular research topic. I then contacted three academic staff at the School of Education at Deakin University and asked if they would be willing to supervise the research project I had in mind. Professor Ian Rowbottom responded a day later and offered to supervise my planned research project and the
writing of my doctoral thesis. I resigned from my jobs and decided to study in
Australia.

4.8 Studying in Australia

I travelled to Australia in October 2008. My life in Australia opened new horizons in
the world of visual impairment to me. It gave me an outstanding opportunity to
explore a new culture, and face a range of challenges I had not experienced before.
Additionally, it encouraged me to learn new knowledge to be fully independent and
more adjusted to my disability. As a person with vision impairment, moving to a new
country and living in a different environment was a big challenge.

The first thing I noticed about Australia was that the social culture towards people
with disabilities was completely different from that I had experienced in the Middle
East. Generally, I found people in Australia to be more understanding and
supportive. As such, I felt less apprehensive to ask for help when I needed it, whether
at the airport, in restaurants, on public transport, at university, in the library, or
whenever and wherever I struggled to find my way to my destinations. People often
offered their help when they saw me walking with my white cane, even if I had not
asked for any assistance. Nonetheless, I faced new challenges. Emergent from my
everyday and academic experiences, these challenges are taken up in what follows.

4.8.1 Orientation and mobility challenges

In the first three months of my life in Australia, I lived in a small studio apartment
within walking distance of my university. Nevertheless, I struggled with my mobility
on campus, taking almost two months to learn how to get to the university’s main
buildings. As a vision impaired person, I usually take a long time to learn how to
move safely and independently in any new built environment, compared to the time
taken by a sighted person. I found myself getting lost on campus a few times until I
had built up my familiarity with the university’s building layout.

Managing my mobility on campus was less of a challenge compared to managing my
mobility off campus. I had no idea of how and where I could find supermarkets,
shopping centres, medical centres, pharmacies and telecommunication companies in
the suburb I lived in. When I arrived in Australia, I spent my first week in a hotel in
Melbourne’s inner city before moving closer to Deakin University. Interestingly, I
felt the inner city to be more familiar to me than my new suburb. I travelled into the
city by taxi every weekend to buy my weekly grocery needs. I did not know how to catch public transport in Australia. There was no such system in the UAE, so becoming familiar and confident with the available local bus, train, and tram systems was a completely new experience for me.

At first, I found it extremely difficult to manage my mobility by using public transport. I could not read maps, tram and bus numbers, train station names, or even see all surrounding landmarks. Without this information, I could not find my way around easily. I knew that I needed mobility training to learn how to use public transport in and around Melbourne. Thus, I contacted the well-known organisation Vision Australia that offered different types of training to people with visual impairments.

Vision Australia was completely different to the traditional support associations I had experienced in the Middle East. It was professionally staffed with branches located across Australia. To encourage and support the independence of people with visual impairments as its primary purpose, the Association provides training and other services. My own mobility and orientation training with Vision Australia introduced me to Melbourne’s transportation system. Through this training I learned how to move from my accommodation to places I needed regularly such as my eye clinic, Muslim shops, the Eye and Ear Hospital, some train stations, and to the Vision Australia Braille training branch. These sessions helped me to adjust to the lifestyle in Australia and enhanced my self-reliance.

4.8.2 Challenges in learning English as a second language

My studies in Australia started in November 2008 with some English academic writing courses at Deakin University. I explained my special needs to the disability resource centre and my academic necessities, and asked them to provide me with large print materials and extra examination time.

What really amazed me was that in Australia there were specific rules and procedures related to exam provision for SWVI that recognised the need for specific exam accommodation and modification. I did not face any difficulties when attempting my exams during my study at Deakin’s English Institute. I was provided with large font exam materials and extra time. Furthermore, the English lecturers were completely aware of my special needs and were very understanding.
Despite the excellent exam provision available, I did face a few challenges in my study of English. To improve my English academic reading and writing skills, I needed to read as much as I could; however, I could not find any English materials developed for SWVI wanting to learn English as a second language. There were many ESL materials in Deakin’s Independent Learning Centre library. However, they were just normal print format, which I wasn’t able to read. Although I borrowed audio stories to help me develop my listening skills, my reading did not improve as I had hoped. I contacted libraries in Melbourne for assistance with my search for Braille publications designed specifically for blind students wanting to learn English as a second language. The numerous English Braille publications I found turned out to be just normal English books that were hard for me to understand at that stage of my English studies. Also, all these publications were printed in Grade Two Braille, which contains many contractions and Braille codes that I had not encountered before coming to Australia.

As a result, I relied on my hearing to learn English. I borrowed audiobooks and stories, and started listening to Australian television programs. I used screen reader software on my laptop to access Internet websites and to read the references I needed. After a few months, my listening and speaking skills improved, but my reading and writing skills were significantly poorer than my sighted classmates. I was not able to spell English words correctly. As an Arabic speaker, English was an illogical language to me in terms of reading and writing, as words were not spelt as they were pronounced. In addition, I had serious issues distinguishing differences between some homophones such as ‘stair’ and ‘stare’, or ‘there’ and ‘their’.

Moreover, my reading was considerably slower than my classmates. I could not even read quickly in Arabic, my mother tongue, and my English reading speed was even slower. I discovered that when reading in my mother tongue I could hazard a guess at unreadable words, but in learning English as a second language, I had to concentrate on what I was reading because I was not familiar with the new vocabulary. These challenges meant that I did not like reading English aloud. I took a very long time to complete my homework and to search for the meaning of new vocabulary. Further, that I was unable to see the whiteboard, or write quickly enough made taking notes in the lectures particularly challenging.

Owing to my slow reading, I was embarrassed to read in front of my classmates, and I was not able to do the class activities as quickly as my sighted classmates.
Additionally, I struggled to submit my assignments by the due date. Reading references and searching for the information necessary for my assignments took a very long time. Furthermore, in my listening exams, I struggled to read the questions and listen to the audiotape at the same time. My final listening exam was based on note taking, and as I could not write quickly, so my score for note taking was very low.

As a result of all these challenges, I did not pass my last English level with the required score, and had to repeat the course. It was the first time in my life that I had to study any subject twice, and I was very disappointed in myself. The last five weeks of my English studies were hard. I spent all weekend working on my assignments to submit them by the due date. I also tried to improve my writing, and finally I had a tutor who checked my writing regularly. After all these efforts, I successfully completed my English preparation courses, and began my doctoral studies.

Although I successfully passed my English courses, I still did not feel confident enough in my English writing. I needed to improve my English reading capabilities, including finding alternative ways to access English materials without using my sight, due to my issues with reading for extended periods of time. I decided to learn Grade Two English Braille so that I would be able to read any English Braille publication. I also decided to learn how to use Braille technology. Through Vision Australia, I started weekly Grade Two Braille sessions and completed these within eight months. At the same time, I had regular sessions with an English tutor to check my writing in the first year of my PhD. I continued taking these sessions occasionally after that.

4.8.3 Health challenges

During the first two years of my studies in Australia, I had serious glaucoma crises. The intraocular pressure in my right eye rose unexpectedly to dangerous levels, which put me at risk of losing the rest of my sight in that eye in less than a year. Prior to this, I had no glaucoma symptoms at all. This is one of the serious issues facing many glaucoma patients. I found out about the high pressure in my right eye by chance when I was visiting my eye specialist in Sharjah during my first visit back home in December 2008. At the time, I had not been taking my eye condition very
seriously. I occasionally had high pressure in my right eye, but it was usually
controlled with medication.

After I returned to Melbourne at the end of my first holiday, I tried to find an eye
specialist to complete my eye treatment. I started my treatment in a private eye clinic
close to my accommodation. I thought that the pressure would be controlled within a
few weeks, but this particular glaucoma crisis took longer than expected; causing me
some distress. I started to use three different types of eye drops, in conjunction with
tablet medication. The tablets had various adverse side effects that made me feel
tired and depressed over the treatment course. After six months of treatment at the
private clinic, my case was transferred to the Royal Victorian Eye and Ear Hospital
for a second opinion.

The doctors at the Eye and Ear Hospital decided that I needed a laser glaucoma
operation. I underwent this procedure on November 2009. Alarmingly, the pressure
in my eye remained high even after the operation. This outcome completely
disappointed me. At the time, I was in the first months of my PhD, but I wasn’t able
to concentrate on my studies at all. I explained my situation to my principal
supervisor Professor Ian Robottom, and asked for a four months intermission period
until I finished my eye treatment. Professor Robottom was very understanding and
supportive, and Deakin University approved my intermission request very quickly.

I travelled to the UAE after my operation for my second year-end holiday, and
visited a number of doctors. Most of them said that my eye condition was very
complicated, and that I might need to undergo a long period of treatment. One of
these doctors advised me to complete this in Australia, and continue my studies at
the same time.

I returned to Melbourne’s Royal Victorian Eye and Ear Hospital at the start of 2010.
The doctors offered two different opinions on my eye treatment. Some advised
further laser surgery, while others advised me of a different glaucoma operation
called Tube-Shunt Surgery. Both these procedures carried risk. The laser surgery
might need to be repeated a few times before seeing any positive outcomes. On the
other hand, the Tube-Shunt surgery was risky because of possible damage to the
optic nerve.

I sought a second opinion where the doctor advised me to undergo another laser
surgery. I accepted that, and booked it to be done at the Eye and Ear Hospital again. I
did not have high expectations this time, and did not even tell my family or my friends. My parents were worried that I could lose the rest of my sight like my two blind siblings. I felt responsible and guilty about the pain I caused them. I went to the hospital alone, and was also left alone after the operation was done. The outcome was a great success. The pressure decreased to the normal level in my right eye, and I was able to stop the glaucoma tablets. I tried to catch up with my studies again, and wrote the first two chapters of my thesis within a few months of finishing this procedure.

Two months after my second laser surgery the pressure in my right eye became out of control again. I was completely depressed. I consulted highly expert eye specialists in Melbourne. Some advised me to undergo further laser surgery, while others again recommended the Tube-Shunt surgery. I felt very confused and did not know how to make the best decision. My case was transferred to the Eye and Ear Hospital yet again. All of the doctors there recommended the Tube-Shunt surgery as the best option in my case. One of these doctors was highly experienced in this kind of operation. He explained all the possible outcomes of this surgery, and provided me with references about this procedure. A few days later, I decided to undergo the surgery at the same Eye and Ear Hospital.

I explained my health condition to my supervisors at my university, and again requested two months intermission. The usual timeframe for recovery after this surgery was six weeks, and another operation might be required in some cases. My intermission request was again approved very quickly. Moreover, I received strong support from the UAE Cultural Office that was responsible for Emirati students in Australia. They covered all my medical expenses as a part of my scholarship and approved my intermission request.

I had the operation in August 2010 and took about one month to recover. The outcome was better than I had expected with the intraocular pressure returning to normal levels and under control just five weeks after the operation. That I did not need to undergo any further procedures gave enormous relief.

I used the second month of my intermission to catch up with my studies again, and wrote the third chapter of my thesis. This chapter was the last chapter I needed to write to submit my colloquium document as a basic requirement to finish my first
PhD year. I completed my colloquium in November 2010 and gained ethical approval to start collecting my research data.

The glaucoma crisis earlier described was the hardest and longest lasting health issue I had ever faced in my life. It affected me physically and emotionally, and adversely affected my capacity to study. I was at risk of losing what vision remained in my right eye, and started to think about the possibility of the same issue presenting in my better eye. I began to ask myself many questions: How could I catch up with my studies if I became blind? How long would I need to adjust to the blindness? I learned how difficult it must be for anyone to lose their sight completely, even if it was very limited beforehand. I realised that I was very fortunate to keep my sight to this age.

4.8.4 Doctoral study challenges

In the first year of my doctoral studies, and in order to justify my research project and explain how this would be conducted, I was expected to write a colloquium document containing the first three chapters of my PhD thesis: the introduction; the literature review; and the methodology chapter. To write these chapters, I had to read many references in a very short time.

For reasons earlier elaborated, I could not read normal textbooks and materials. I tried to recopy some of the references I needed onto A3 paper in larger font sizes; however, this was unhelpful as even with bigger print, my eyes usually get exhausted after about an hour, and I cannot read any longer.

I tried to access online references through my screen reader, but found many remained inaccessible. I started the time-consuming process of scanning materials as text to my laptop so that I could read them using my screen reader. I found myself in a quandary: How could I make the adjustments I needed for my materials, and at the same time, complete the writing I was expected to do?

Over the first three months of my studies, the extent to which I could write was very limited. I experienced a few issues related to improving my English skills, stabilising my eye condition and making the adjustments I needed for my studies. During this time I had no clear idea of what kinds of support were offered to SWVI at my university. I contacted my university’s disability department and explained the adjustment I needed. Understanding and helpful, the department staff explained that
any materials I needed for my studies could be made available in electronic format within about three weeks following my request. I also asked for some assistance in the library, as I was not able to read the books’ location labels, or find needed references independently. Since that time, I began to receive all the study materials I needed in electronic text format. The library also provided assistance when requested. These types of provisions increased my capacity to study more confidently and effectively and helped minimise the time I needed to adjust my study materials. As such, my study efforts were eased and I completed my work more quickly.

Furthermore, I contacted some of my blind friends and asked them about their experiences in using some assistive technology that they recommend I could use for my studies. A few recommended a Braille enabling device called Braille Sense. Through this device I could read electronic materials, access Internet websites and take notes in Braille. I also contacted Vision Australia for advice on the most suitable electronic magnifier for my studies. The cost of purchasing both the Braille Sense device and the suggested electronic magnifier amounted to a prohibitive $10,000, and was totally unaffordable for me. Thankfully, the UAE Cultural Office in Australia provided extra funds to purchase these two devices. Using these types of assistive technology and having my materials in electronic text format significantly improved my studying capacity.

Another issue I faced during my doctoral studies was that I could not do my work as quickly as the other sighted PhD students. This sometimes made me disappointed in myself. However, reading in the area of visual impairment gave me further insights into what I could do and what I could not. I now better understood why I needed extra time to do the same things that sighted people do.

Dealing with all these challenges at the same time put me under heavy pressure in the first two years of my study in Australia. Sometimes I felt that I was not capable of going forward in my studies. That my supervisors never lost faith in me, gave me great confidence. I used the counseling support available at my university and any other sources of help I could get, whether at my university or through other organisations.

In comparing my capabilities to sighted people, I often felt disappointed about my limitations. I could not do what they could, no matter how hard I tried, but after all
these challenges in my life, I realised that I am different, and I have the right to be different.

Although I began to explore my impairment when I was a child, I found it difficult to accept and I experienced low self-esteem. It took me a while to understand my disability and to speak out confidently about my special needs without any shame. It has been a long journey for me; a journey that began at the Dubai Centre for Students with Disabilities, continued on to university in the UAE and Egypt, and then on to Deakin University in Australia.

4.9 Chapter summary

This chapter presented my own autobiographical case study as a person with vision impairment. Through this narrative account I tried to give my readers an insight into the main challenges I faced as a SWVI during my educational journey. These included: health challenges in my early childhood; family challenges; challenges in studying at a special centre for students with disabilities; challenges in studying at mainstream schools; difficulties faced in my attempts to access some universities and majors; lack of provision at the university level; difficulties in accessing information, difficulties in moving and studying in other countries; and social and personal challenges.

My narrative account is intended to both promote deeper thinking about and understanding of vision impairment as a disability and to serve as an integrative link between my own voice and the voice of the research participants. The following chapters illuminate the experiences of SWVI in the UAE higher education system and provide a basis for comparison with my own experiences.
Chapter Five
Zayed University case study

5.1 Introduction

Zayed University (ZU) is the newest government tertiary education institute in the United Arab Emirates. It was founded in 1998, ten years after the establishment of the Higher Colleges of Technology, and 22 years after the founding of the United Arab Emirates University (Australian Education International, nd). The university follows a Western model of education and offers various courses in a contemporary environment (ZU, 2011a). The disability services at Zayed University were established in January 2010 after the first SWVI joined ZU.

This chapter will present an in-depth case study account of the experiences of the first SWVI to study at ZU, identified by a pseudonym in this account as Dana. It will also highlight the main challenges both the academic staff faced in their support of Dana, and those experienced by the Office of Accessibility in providing this student with the appropriate provision for her studies.

Dana (Student 13 in the table of participants, see Table 1, p. 46) was the only SWVI who registered at the Office of Accessibility at ZU during the academic year 2010/2011. Consequently, it is possible that this student will be identifiable. She was given the opportunity to consider this possibility after which she was willing to take part in this study.

Dana was interviewed four times. The first interview was conducted in December 2010, the second interview in March 2011, the third interview was a telephone interview conducted in April 2011, and the last interview, also a telephone interview, was conducted in March 2013. During these interviews, Dana was asked about her experiences at ZU, and the challenges she faced at different stages of her studies. The interviews were conducted in Arabic, with the transcription translated into English by the researcher. (For more information about Dana’s interviews, see Table 1, student 13, p. 46).

Four observations were carried out with Dana: the first in December 2010; the second and the third in March 2011; and the fourth in May 2011. These observations took place in different classes including English, Mathematics, Advising (Personal...
Organisation), Arabic, Braille, and Computer Training classes. In addition, Dana’s daily activities on campus were observed. These observations were intended to collect information about Dana’s mobility on campus, her relationships with her classmates and friends, and the development of her computer and Braille skills. The interviews and the observations generated experientially rich findings that permeate this chapter’s case study account.

Furthermore, three lecturers were interviewed for this case study (Lecturers 9, 10 & 11, see Table 2, p. 46). The first, a female English lecturer from the United Kingdom, the second a male Mathematics lecturer from Canada, and the third, a female lecturer the United Kingdom, who taught Advising and Academic Learning. These lecturers taught Dana in the second year of her ZU studies. The interviews with these lecturers were conducted in English.

Two support staff also took part in this case study (Officer 4 & 5, see Table 3, p. 48). Officer 4 worked at ZU’s Office of Accessibility and was interviewed in English once in 2011. She had only one year of experience at ZU, and 15 years of experience at the Ministry of Education. Officer 5, a computer trainer at Tamkeen, was interviewed in Arabic three times: twice in 2011, and a third time in 2012. She had four years of experience at Tamkeen, and one year of experience at ZU.

Most of the data presented in this case study was generated during the academic year 2010/2011, with some additional data generated in the academic year 2012/2013. During the period of 2010 and 2013 Zayed University did not have a special policy for students with disabilities. Thus, information about services provided to students with disabilities was gathered from a general outline of the services available on the 2011 ZU website (ZU, 2011c), along with that unearthed from the interviews.

Data from the case study interviews were referenced depending on the participants’ group and the number allocated to each participant. For example, Dana was given number 13 in the SWVI table of participants. Thus, all information and statements that were reported by Dana were referenced as (Student 13). This referencing technique was applied to all other research participants’ interview excerpts in the other case study chapters.
5.2 Background of Zayed University

Zayed University (ZU) was founded in 1998 by the United Arab Emirates federal government. It is named after the first president of the UAE, his Highness Sheikh Zayed bin Sultan Al Nahayan. It has two main campuses in Abu Dhabi and Dubai, as well as satellite locations in these two emirates offering similar programs on both campuses to over three thousand students (Bayt, 2012; ZU, 2011d).

Zayed University also established a new campus in Sweihan in 2008 in collaboration with the UAE Armed Forces. This campus offers an International Baccalaureate academic program for military students. The academic model of the Sweihan campus is similar to the Dubai and Abu Dhabi campuses (ZU, 2011d).

In January 2008, Zayed University was granted accreditation by the US-based Commission on Higher Education of the Middle States Association of Colleges and Schools. Though the regular review process runs on a ten-year cycle, after their initial accreditation, institutions are required to complete a full self-study review at five years. Zayed University was engaged in the self-study process and confirmed its re-accreditation status in 2013: ‘Accredited by the Middle States Commission on Higher Education, the university's programs are recognized internationally as coming from a quality assured university’ (ZU, 2011a).

In 2011 there were over seven thousand male and female students enrolled at ZU representing 19 countries (ZU, 2011a), and over 650 staff members from 35 different countries (ZU, 2011d). Zayed University follows an international higher education model. It has six colleges: Arts and Sciences, Business Sciences, Communication and Media Sciences, Education, Information Technology, and University College. These colleges offer a number of undergraduate programs, graduate certificate programs, and Masters degree programs. English is the main language of study (ZU, 2011b; ZU, 2011d). However, the university aims to prepare its graduates to be fluent in English and Arabic, strong in the use of computer technology, and to develop a high level of research understanding and skill (ZU, 2011d).

5.3 Disability support services at Zayed University

Disability services were first made available at Zayed University after the first legally blind student, Dana, joined ZU in the academic year 2009/2010. At that time there was no special officer or department to accommodate students with disabilities
at this university. Dana had contacted ZU administration and explained her special needs to them before commencing her studies. In her second week at ZU, Dana was interviewed by the Student Dean who asked her about her educational needs. After this meeting, the decision was made to establish a new department to provide Dana with the reasonable accommodation she required for her studies, and to encourage more students with disabilities to join ZU (Student 13; Officers 4 & 5).

The department was founded in January 2010, and was called the Office of Accessibility; a name intended to reflect the Office’s positive focus on offering special needs students ‘enabling accessibility services’ rather than ‘disability services’. Officer 4 reported that this name was chosen to encourage students with disabilities to register with the department and request the support they needed. As a large number of students with disabilities in the UAE feel uncomfortable being categorised as individuals with ‘disabilities’ (Officer 4).

The Office of Accessibility aimed to provide students with disabilities with the following services: gaining access to enrolment processes and information, liaising closely with the faculty members to support students with disabilities, providing career guidance, offering on campus work opportunities, and providing assistive technology devices to those who cannot afford to purchase them (ZU, 2011c).

Although Zayed University established the Office of Accessibility to cover the additional needs of students with disabilities, the university did not have an educational policy for these students when this study was conducted (Officers 4 & 5). Moreover, the Office of Accessibility was newly founded when conducting this case study, and did not yet have enough resources or experience to accommodate Dana. Consequently, Dana faced a number of challenges in the first two years of her studies at ZU.

5.4 Dana’s experiences at Zayed University

5.4.1 Dana’s background

Dana was born with a genetic retina condition and was the second person in her family to be born with vision impairment. Her old sister is also vision impaired. With very limited sight, Dana is legally blind. She can see brightness and darkness, and colours, if objects are held very close to her. She cannot see stairs, or use her limited sight to read print materials even if they are written in large font (Student 13).
Before joining ZU, Dana completed her schooling at a mainstream school. She faced many difficulties enrolling in the mainstream education system when she was six years old. Most schools in her area did not accept her, as she was a special needs student. As a result, she spent three years at home without receiving any education. When she turned nine, her family decided to send her to a private school where she finished Grades 1 and 2. At the end of Grade 2, her family enrolled her in a public school. The principal of this school asked her to repeat Grade 2 before accepting her in Grade 3. Although Dana passed Grade 2 successfully for the second time, the principal asked her to move to another school. Dana related that this request to move appeared to be because this principal did not want to take any responsibility for students with a disability at her school. When Dana moved to a new public school, she completed Grade 3, and then went on to successfully pass all her school grades until she finished her high school certificate (Student 13).

In the first years of her schooling, for a short period of time Dana had some useful sight, and was able to read and write with some struggle. At home her mother would read the school materials for her, and helped her to do her homework. Dana attempted her exams at school with the other students on her own until she finished Grade 6. When she started Grade 7, Dana moved to a new school where her vision impaired sister studied. The principal and the teachers of this school were very understanding and helpful, as they had had previous experience with her old sister. At this school, Dana had the support of an exam test-writer who read the questions for her, and recorded Dana’s answers. Three years later, Dana moved to a high school. Her mother started to audio record the study materials for her during this period and helped her with her assignments. Dana continued to receive the support of a test-writer until she finished her high school (Student 13).

Dana reported that she built up a strong relationship with two classmates in her preparatory school. These two classmates helped her with the class activities, and assisted her with her studies when she needed. For these reasons, she asked the school principal to keep her in the same class with these two students. Her two classmates continued to assist her when all three moved to the same high school. One of these two students also joined ZU with Dana, and again, was very supportive (Student 13).

When Dana completed high school, her mother encouraged her to take up university studies. Dana’s high school scores qualified her to study at ZU; a university known
to have a very good reputation as a public university. However, as Dana had not received any training at her high school in Braille, mobility skills, or in the use of assistive technology, she faced significant challenges in her transition to study at ZU (Student 13).

5.4.2 Challenges facing Dana’s in her first two years at ZU

5.4.2.1 Required training

As a legally blind student, Dana needed to undertake Braille, mobility and computer trainings at school. The only training Dana had received before she joined ZU was Braille training at the Emirates Association of Visually Impaired when she was in Grade 9. Although Dana learnt Arabic Braille literacy at that time, she did not complete her Braille training and did not practice her Braille after that. Consequently, she was Braille-illiterate when she joined ZU; reliant on her hearing and memory to learn (Student 13). In addition, she could not use computers, or move independently on campus (Officer 4).

In her first year of studies at ZU, the Student Affairs department contacted Tamkeen – a training centre for people with vision impairments in Dubai (Tamkeen, 2007) – and requested support for Dana. They asked for general information about visual impairment as a disability, and to advice them about the assistive technology available for people with vision impairments. The department also asked if the training centre could both identify Dana’s special needs and offer her training (Officer 5).

Tamkeen had only one computer trainer at that time. This trainer had undertaken a short mobility and Braille training course. The trainer explained to Dana and Student Affairs what kind of training should be offered to Dana and why this training was important. This trainer offered Dana computer, mobility and Braille trainings (Officer 5). At the time, Dana was studying some English preparation courses at ZU. However, the Office of Accessibility encouraged her to undertake the training while completing the English courses as this would prepare her for her future studies at ZU, and facilitate her independence (Officers 4 & 5).

Dana began her training in the academic year 2009/2010 by undertaking two weeks of mobility training. Through this training, she initially learnt how to move
independently to campus locations she needed to access regularly with the use of a white cane (Officer 5).

Additionally, Dana undertook some basic computer training, as she did not have enough time to undertake a more comprehensive training course while concentrating on her university studies. Instead, her trainer arranged some computer sessions to teach her specific things to assist with her university studies. For instance, she learnt how to access Word documents using the screen reader, but she did not learn how to create folders or files. Therefore, she could not touch-type or access online information, nor use computers independently (Officer 5). Dana’s trainer commented:

> When I train any student with vision impairment how to use the computer, I usually give them general idea about computers before I train them how to use the screen reader. I couldn’t do that with Dana. I had to teach her what she needed for her studies. I’m not satisfied about her computer skills. She still needs to learn more. (Officer 5)

At the same time, some of Dana’s lecturers suggested that she should learn English Braille to improve her English reading and writing skills. Her computer trainer gave her two weeks’ Braille training after she finished her final exams in the first semester of the academic year 2010/2011. Dana only learnt Grade 1 English codes, but as her Braille training was too short, she was not able to read Braille easily. Furthermore, Dana did not practice Braille at home; her Braille skills did not improve after she finished this short period of training (Student 13; Officer 5).

The fourth kind of training Dana undertook was a short training in the use of Braille Sense (a Braille note-taking device). The Office of Accessibility at ZU provided Dana with this device, and Tamkeen arranged a short training course for her. However, after this training, Dana still could not use her Braille Sense, as she was not able to competently read Braille. As a result, she did not get benefit from having the use of this device (Officer 5).

By the beginning of the second semester in the academic year 2010/2011, Dana was not able to read Braille, use computers professionally, or use the assistive technology she received from the Office of Accessibility. This meant that she could not improve her academic abilities in reading and writing and searching for information. She was
not able to do her assignments on time, or take lecture notes, and she needed more than double the usual time to complete her exams (Officers 4 & 5).

To address these issues, the Office of Accessibility asked Tamkeen again to arrange a full training course for Dana. This training included teaching Dana how to use the screen reader with basic computer programs such as Microsoft Windows, Word, Excel and PowerPoint. In addition, Tamkeen agreed to train her in how to use her assistive technology such as Braille Sense and BookSense (a small recording device). Officer 5 believed that Dana would be able to improve her computer and Braille skills within five months.

Three months after Dana started her training, her trainer was interviewed. Dana’s Braille and computer training sessions at Tamkeen were observed again in May/2011. According to Dana’s trainer, Dana’s Grade 1 English and Arabic Braille learning had progressed. She now knew how to access her university email and the online Blackboard learning system, and how to use Microsoft Word, PowerPoint and Outlook. She only had to finish the Excel training sessions to complete her full computer training course (Officer 5).

However, through my observations, it seemed to me that Dana’s Braille reading and writing skills had not shown substantial improvement. For instance, she did not learn how to use the Braille typing machine correctly. She did not appear to be able to move her fingers in the right order to type Braille, which made her Braille typing speed very slow. In addition, her typing speed was slow, as Dana could not type quickly on the computer. As a result, she needed more time to complete her assignments and exams. In addition, Dana found it challenging to use her computer professionally for class activities such as accessing websites and online researching, nor use Braille in her studies. The analysis of the interview and observational data generated in this case study suggests the following possible reasons why Dana met particular challenges in her efforts to develop independent learning skills:

1. Dana needed to juggle training and study commitments
2. Dana did not have access to a provincial specialist Braille trainer. Although her computer trainer volunteered to teach Dana Braille, the trainer had little experience in teaching Braille to a person with vision impairment.
3. Dana related that she did not practice her newly learnt Braille skills during her training. For instance, although she undertook a few typing lessons in her first
year at ZU, she did not take the opportunity to practice on her own. Although she undertook three Braille training sessions, she was not seem eager to learn Braille.

4. It appeared that Dana’s family was not able to provide adequate support, possibly because of a lack of understanding of the challenges Dana faced in her studies. An officer at the Office of Accessibility explained:

Dana’s family doesn’t understand the challenges Dana has been facing since she started university. They think it is only our responsibility to support her, and it is easy for her to cover her special needs on her own. (Officer 5)

In conclusion, as Dana did not develop the required skills to be fully independent in her studies at ZU, she faced different challenges in her classes.

5.4.2.2 Challenges in classrooms

Dana faced challenges in her classes related to taking lecture notes, participating in class activities, and building strong relationships with her classmates.

As Dana could not type quickly on her laptop, she needed a very long time to take lecture notes. Dana related:

The lecturers speak very fast; and I cannot write what they are saying. I’m relying on my listening skills to learn more than my other skills. (Student 13)

Staff at the Office of Accessibility attempted to address this issue by providing Dana with assistive technology that included Braille Sense (a Braille note taker) and BookSense (a recorder and lightweight portable DAISY player) to facilitate her lecture note taking. However, Dana encountered challenges using these devices as firstly, her Braille skills needed further development to enable her to use the Braille Sense, and secondly, she did not seem open to learning how to use these devices independently (Officer 5).

In relation to participating in class activities, Dana appeared to struggle in her attempts to access the required class materials. She used her laptop screen reader to access these materials; however, the task of listening to her computer and to her lecturer at the same time was not easy. Occasionally, if her screen reader stopped reading, the point her lecturer was making was likely to be missed. (Lecturer 9; Student 13). Additionally, Dana could not undertake the listening note-taking task; one of the basic skills she needed to learn in her English classes. (Lecturer 10). A
further challenge for Dana was the need to be able to read and write more quickly. One of Dana’s English lecturers noted that Dana needed twice the amount of time to complete her work compared to other students. For instance, Dana needed two lessons to finish class reading exercises and to complete the questions. Furthermore, she needed more time for her academic reading (Lecturer 10).

Moreover, from my observations, Dana did not seem to have a close relationship with her classmates. However, one classmate, who was studying a few units with Dana, appeared to be very close and a great support to her. She helped Dana with her mobility, supported her during class activities and with her assignments. She also encouraged Dana to undertake mobility training. Nevertheless, one of Dana’s lecturers was worried that Dana may become too dependent on this friend:

In my class Dana’s friend helps her, but in the other classes her friend will not be there. If Dana received too much support from her friend, she will become dependent on her. (Lecturer 11)

As a result of these classroom challenges, Dana struggled in studying some subjects.

5.4.2.3 Challenges in studying some subjects

In the academic year 2010/2011, Dana studied English, Arabic, Mathematics and Academic Advising. English and Mathematics seemed to present particular challenges. She struggled to improve her English reading and writing skills and to better understand her Mathematics.

In her early studies at ZU, Dana began with English units that were designed for students who needed to strengthen their English language reading, writing, speaking and listening skills (Officer 4). As a SWVI, Dana relied on her hearing to learn English at school. She did not learn English Braille, she did not learn how to read and write English. She had good English listening skills, but could not speak English easily. When she started her university studies, Dana experienced difficulties with simple English spelling (Officer 5). As an officer at ZU observes:

Dana only started to learn to read and write in English when she joined ZU. She did not learn how to spell English at school. Her English vocabulary is lacking. She cannot understand some lectures, because she cannot understand much vocabulary used in these lectures. (Officer 5)
In addition, Dana did not use Braille to learn English spelling. She needed to read and go through the words to learn how to spell them. An English lecturer commented:

Dana is missing out just a little bit in all her English skills. For example, we use laptops in our class to read newspapers, but she doesn’t know how to access newspapers. I know that she can listen to the news whether in Arabic or in English, but she needs to be able to read and analyse like the other students. (Lecturer 10)

Another issue facing Dana in studying English was that she was not able to use the dictionary independently even though her friend occasionally helped her to search for new vocabulary. Dana had two dictionary options: an online dictionary, and an English-English talking dictionary such as Franklin. At the end of the academic year 2010/2011, Dana related that she had not used either of these dictionaries. She was waiting to receive training from Tamkeen to learn how to use the online dictionary. Dana withdrew from one of her academic units in 2011 because this unit contained much new vocabulary. Without being able to use either of the dictionary options, Dana understood that she would not be able to search for the meaning of new vocabulary independently (Student 13; Officer 5).

Another obstacle facing Dana in studying English was accessing her teachers’ feedback. One of her English lecturers stated that she did provide detailed feedback to her students to prepare them for academic writing; however, she could not provide the same type of feedback with Dana because Dana could not read this. Although the teacher read her feedback to Dana and explained any writing errors to her, she could not do this for every piece of Dana’s writing. Further, it was not easy for Dana to remember all the details of feedback provided orally (Lecturer 10; Student 13).

Studying Mathematics also presented some serious challenges for Dana. Mathematics was one of the compulsory units that Dana was required to study in her ZU foundation year. Dana had studied Mathematics in Arabic and she needed to master this unit in English. Studying Mathematics in English was very challenging for Dana, because she was not familiar with many English language Mathematical symbols. Dana could not understand her Mathematics lecturer’s explanations as she found the language he used in the classroom was more sophisticated than her own level of English (Student 13).
In addition, Dana relied on her hearing and memory to master Mathematics. This was quite challenging for her, especially as some equations she studied contained numbers of six or eight digits, which is difficult for most people to remember. Many of these equations included numbers, brackets, signs and codes that must be read carefully to ensure accurate calculations. As such, it was not easy for Dana to carry out accurate calculations through just listening to this explanatory information (Lecturer 9).

To assist with Mathematical calculation tasks, Dana needed to use a special talking calculator designed for use by SWVI. However, possibly out of shyness, or lack of awareness of such technology, she did not ask the Office of Accessibility to provide her with this kind of calculator. Therefore, she tried to calculate equations in her head, and needed a very long time to do so (Student 13).

5.4.2.4 Accessing information

In the academic year 2010/2011, ZU did not have a special department or even an officer responsible for adjusting study materials for students with print disabilities. Adjusting the course materials for Dana became the whole responsibility of Dana’s lecturers. Her lecturers sent the adjusted materials to Dana in Word document format. However, not all the class materials covered in lectures and tutorials could be converted in this way because her lecturers did not always have the materials in Word document format (Student 13; Lecturers 9-11). Specifically, Dana commented:

When my lecturers have the materials as a soft-copy, they send it to me. Otherwise, I cannot have it in accessible format. In this case, I do some group work with my classmates to have more opportunity to know what is written in these materials. (Student 13)

Dana faced further difficulties with accessing the PDF format documents. She reported that she did not know how to use her screen reader to read PDF documents. In addition, not all the PDF files she needed to use were readable by screen readers, especially Arabic files. Dana was studying one Arabic unit in the academic year 2010/2011. At the beginning of the semester, when she received her Arabic course materials in PDF format, she asked her lecturer to provide her with a Word document version of the same materials. After this individual request, her lecturer started to send her the course materials in Word document format (Student 13).
Using the library presented further challenges. Dana could not use the library independently, because she did not know how to access the library website without help, nor could she search for references she might need for her assignments. Moreover, the library at ZU did not offer accessibility services to students with print disabilities, such as providing accessible formats for texts they needed (Student 13). Dana stated:

The librarians in the library are very helpful, but even if they help me to find the books I need for my assignments, I would not be able to read these books on my own. (Student 13)

A further complication for Dana in relation to her completing her assignments was that she could not do online research because she was still undertaking computer training. She did not learn all the computers skills she required for her studies until the end of the academic year 2010/2011. Dana would ask her friend for some help for her assignments; however, as her friend was doing the same assignments, Dana needed to wait for this help (Student 13).

5.4.2.5 Orientation and mobility

When Dana started her studies at ZU, she was dependent on her friends to assist her to move around. She had not undertaken any mobility training before starting her university studies. When the Office of Accessibility was established, staff arranged for Dana to undertake an on campus two-week mobility training course with Tamkeen to improve her independence (Officer 4). At the beginning, Dana refused to use the white cane because she did not want her impairment to be identified by other students. Her trainer, some officers at ZU and her friend eventually convinced her to undertake mobility training (Student 13). Dana’s trainer stated:

Dana’s disability cannot be identified easily. She needed to hold something shows her identity as a person with vision impairment. For this reason, I convinced her to use the white cane. (Officer 5)

When Dana started to use the white cane, she decided to finish her mobility training. She said:

When I started using the white cane at my university; my lecturers were so impressed and they encouraged me to continue my training. This positive
attitude encouraged me to complete my mobility training, and use the white
cane to manage my mobility on campus. (Student 13)

Through this mobility training Dana learnt how to move safely and independently on
campus, and how to get to common places at her university including her classes, the
Office of Accessibility, the library, and the cafeteria. Nevertheless, Dana only used
the white cane to manage her mobility when at ZU. Dana reported that she felt
uncomfortable using the white cane in public places. She thought that most people in
the UAE would not know why some people needed to use a white cane, and would
stare at her if she used it in public (Student 13; Officer 5).

Through my observations with Dana, I noticed that the level of awareness among
sighted students at ZU about the purpose of the white cane was very low. Although
Dana always carried her white cane when on campus, most students did not give way
to her when they walked around her, nor did they try to avoid bumping into her.

Dana found the physical environment at her university generally accessible. She did
not face any difficulties with moving between the buildings and could reach any
building she needed. The only challenge she faced was finding her way to some of
her classrooms. For instance, in the academic year 2010/2011, she found it difficult
to find her Mathematics class independently:

I don’t go to the Maths class independently because I cannot read the room
number. I’m afraid that I will get lost. I know how to go to the building, but
I don’t know how to go to the right room independently. (Student 13)

Reports of such challenges suggest that Dana continued to encounter these because
she did not receive further mobility training to learn how to get to her new classes. In
the case of Dana’s second semester Mathematics class, Dana relied on her friend’s
help to locate the classroom (Student 13).

Moreover, Dana found the elevators at her university inaccessible because they did
not have any Braille writing on the buttons, nor any voice facility. Despite these
challenges, with her friend’s help, Dana preferred to use the elevators rather than the
stairs.

5.4.2.6 Awareness levels

As indicated earlier in this chapter, in the academic year 2010/2011, Dana was the
only candidate who registered as a student with disability at ZU. Therefore, this
section will only evaluate the level of awareness towards Dana by the ZU community from the perspective of Dana’s experiences with sighted students, and her lecturers. This evaluation will focus specifically on Dana’s understandings of the attitudes she felt others at ZU held towards her.

Dana had very positive experiences with her largely foreign lecturers, reporting that she found them helpful, flexible and understanding. Dana related that her lecturers took her special needs into consideration by either explaining the images they used in their lectures to her, or by asking one of her classmates to do so. They also provided her with accessible course materials, and endeavoured to provide her with the required adjustment she needed for her exams.

Dana reported that she found her classmates understanding, especially as many of them had studied with her at high school and were familiar with her special needs. Nevertheless, when Dana studied with a new student, this student took some time to learn about her additional needs. However, she found that most of the sighted students outside her classes do not knew how to deal with her special needs (Student 13). An officer at the Office of Accessibility commented:

There are 3000 students studying at Zayed University this academic year. A large number of them are not aware of how to treat people with disabilities. When Dana started her studies here, many sighted students avoided her, and some of them treated her with a kind of pity. When these students learnt about her disability, their attitudes became more positive. (Officer 4)

The Office of Accessibility at ZU tried to increase the level of awareness among ZU students by organising a few awareness campaigns. For example, ZU celebrated the white cane day for the first time in 2010. A workshop about mobility for people with vision impairments was organised at ZU by Tamkeen (Officer 4). Nonetheless, from the observations I conducted with Dana, this workshop seemed not enough to create a high level of awareness among ZU students of the need to understand and support SWVI.

Finally, the person with the greatest awareness of Dana’s disability was Dana herself. In our interview, we talked about her eye condition, her sight level, the adjustments she needed for her education, and her knowledge about her rights as a student with a disability.
Although Dana had a clear understanding of her medical eye condition, it was hard for her to explain her sight level. From her responses, that she did not appear to have a clear understanding about the type of visual impairment she had (Student 13).

When I asked Dana about her knowledge of federal law related to the rights of persons with disabilities, and about her rights as a SWVI, she replied that she had no knowledge of these rights. Furthermore, Dana did not seem to have a clear idea about the adjustments she needed for her education. For instance, she did not know exactly what kind of adjustments she would need for her study materials, her classes, or for her exams. This made the task of providing Dana with important adjustments for her education more difficult for her lecturers, as well as for the Office of Accessibility.

5.4.2.7 Exams accommodation and modification

Dana needed specific accommodation and modification for exams. Dana preferred to do her exams using her laptop and as such, required her exam materials to be in electronic format. She also needed extra time, as her typing speed was very slow (Student 13).

One of the first issues facing the Office of Accessibility in its attempts to accommodate Dana’s special exam requirements was determining how much extra time she needed to complete each exam. In the first three semesters of her studies at ZU, there was no time limit for Dana’s exams. She was allowed to take all the time she needed (Lecturer 10).

The issue of extra exam time was discussed at meetings held in the second semester of the academic year 2010/2011. These meetings were attended by Dana’s lecturers, officers from Tamkeen, an officer from the Office of Accessibility and Dana. When asked about the additional time for Dana, an officer at Tamkeen suggested 50% extra time (Student 13). Some lecturers accepted this suggestion, while others thought it might not be enough as Dana’s typing speed was very slow (Lecturer 10 & 11).

Over the course of my time conducting this case study, I remained in constant contact with the Office of Accessibility at ZU. When discussing the ‘extra exam time’ issue with Dana, I suggested that perhaps 50% extra time would not be enough. I had already interviewed eight SWVI at UAEU who had good reading and writing skills in comparison to Dana. Most of these students received 50% extra time for their English exams found it to be not enough. Dana was worried that she would not
be able to complete her exams on time, especially as her typing speed was slow and knew she did not perform well under pressure (Student 13). When I asked Dana if twice the amount of the allowed time would be enough, she seemed happy with this suggestion. After some discussion with the Office of Accessibility, our suggestion was accepted.

Dana received double time for the midterm exams in the second semester in the academic year 2010/2011. Nevertheless, she found this extra time was not enough for the Mathematics exam. Dana ran out of time to complete all of the calculations. This outcome may be due to firstly, the fact that Dana did not use a talking calculator to; rather she tried to do all the required calculations in her head. Second, Dana was not able to read and type on the computer fast enough. Dana’s Mathematics lecturer commented:

    Dana’s previous Mathematics exam was unfortunate. She got 20 marks out of 50. What happened was that she ran out of time. She didn’t even have time to attempt one of the questions. There were 16 marks for this question. If we take those 16 marks away from the 50, we will get 34 marks. That means she got 20 out of 34. (Lecturer 9)

For one of her Mathematics exam questions, Dana had to complete rows and columns in a table of information. She had to move between columns to find the required information in order to complete the table. Her lecturer stated that some of the errors she made were because she was losing her reference points (Lecturer 9). Dana herself did not realise that. She thought that she could read the exam paper in the right order by using her screen reader (Student 13). Her lecturer commented:

    Some of the errors Dana made were because she was based in the next calculation on the previous number instead of the original number. I realized that the way I had formatted the questions made it difficult for her. (Lecturer 9)

Dana stated that the exam materials were not always completely readable for her screen reader:

    My screen reader cannot always read everything that exists in the exam papers like tables and images. My teachers cannot always make the adjustment I need for my exam before the exam time, because some exams are confidential, and they only receive them on the exam day. (Student 13)
In addition to making adjustments for Dana related to more general subject and exam requirements, some lecturers catered for Dana’s specific learning needs. For example, one of her English lecturers stated that she made many changes to ensure that the English exams met Dana’s special needs in terms of shortening the questions attached to the exam readings. Generally, the students would do a long reading text, and then answer approximately 24 questions. For Dana, this lecturer reduced the number of reading related questions to 16 and only used the multiple-choice style (Lecturer 10).

For the listening component of the last English academic courses at ZU, students studied simultaneous listening and note taking. At the beginning of each exam, students are required to take notes related to questions presented to them in a 15 minute audio recording, and then from their notes, respond to the questions. Dana could not write notes due to her slow typing speed, so she relied on her memory. However, it was hard for her to remember the 15 minutes of monologue and then respond to questions about this. One lecturer made an adjustment to enable Dana to listen to one paragraph at a time and then gave Dana the questions related to this paragraph. Once she had finished the questions, the lecturer would play the next paragraph. These adjustments meant that Dana did not have to listen for long periods of time and did not have to undertake the note-taking requirements of the task (Lecturer 10).

For the writing part, there was no pressure on Dana. If she could not finish this part during the extra exam time allowed, she could take it home as homework and send it to her teacher when completed. Dana needed a whole day just to do the reading and listening parts of her English exams and for this reason that she was allowed to do the writing at home.

Another challenge that Dana faced was doing her IELTS (the International English Language Testing System). The students at ZU are required to pass the IELTS exam as a condition of their enrolment their majors’ courses. Dana’s English lecturers exempted her from this exam as they were of the view that she would not be capable of doing it due to her slow reading and writing skills. Dana would need more than one day to complete the IELTS; extra time that which could not be guaranteed. Furthermore, as Dana could not do the simultaneous listening note taking activity in her English classes, she would unlikely be able to do the listening part in the IELTS exam (Lecturer 10).
According to IELTS protocol, if any student with a disability wishes to apply for any kind of special materials for the IELTS exam, he or she needs to ask for these materials three months before the exam, and the IELTS course at ZU was only available for ten weeks. This meant that Dana needed to apply for the IELTS exam before starting her IELTS course. This special preparation was difficult to be arranged early enough for Dana (Lecturer 10).

In addition to the challenges facing Dana, her lecturers were also facing different types of challenges in meeting her needs for appropriate study provision.

5.5 Lecturers experiences with Dana

At ZU, three of Dana’s lecturers from different departments were interviewed. One of these lecturers came from Canada, while two came from the United Kingdom. All stated that there was a lack of information available regarding Dana’s specific disability and a lack of training opportunities to develop their own knowledge of this area. In addition, they also believed that they did not have enough experience to work with SWVI (Lecturers 9-11).

The first obstacle facing the lecturers in teaching Dana was the lack of information about her special needs. The lecturers interviewed had not received any report of or clear explanation about Dana’s impairment and her additional educational needs before they met her in their lectures. They did not know how much she could see, or what kind of adjustment she would need in their classes (Lecturers 9-11). According to her English lecturer:

I had no idea about how much can Dana see. Can she see me or not, did she learn Braille or not, and what was her experience at school. I had no idea about the assistive technology she uses such as the screen-readers and the Braille Sense. Such information is extremely important for me as a teacher.  
(Lecturer 10)

Another issue facing the lecturers was that Dana seemed unwilling to explain her additional needs or ask for further assistance. The lecturers believed that Dana was shy and not willing to express herself. When, at the first lecture, one lecturer asked Dana about her impairment, she felt she did not get a very clear response from Dana and assumed that Dana was not quite willing to let everybody know about her impairment. She thought that Dana was probably not shy about her impairment;
rather she may find it difficult to express herself easily to people she did not know very well (Lecturer 11). Although her lecturers were willing to offer her substantial support, they did not know what exactly she needed for her studies, or how they could accommodate her (Lecturers 9-11). Lecturer 9 said:

I would like to know from Dana whether she understands my explanation in the classroom or not. If she just tells me that she didn’t understand something, I can then give her a very detailed explanation. (Lecturer 9)

Furthermore, her lecturers had no direct experience of teaching SWVI before they taught Dana, nor had they received any formal training or education related to SWVI special learning and study needs. They tried to find ways to support Dana by observing her class activities, and asking lecturers who had taught her previously. It was difficult for some of them to know what kind of accommodation Dana needed in their classes (Lecturers 9-11). Dana’s Mathematics lecturer commented:

I really don’t know how a blind person could learn Mathematics. I never thought about it before. No one has ever told me that I should be doing this or I should be doing that for Dana, but I try my best to assist her. (Lecturer 9)

Another lecturer said:

I had not had any idea about the support services for visually impaired students before I worked with Dana. I learnt quite a lot by working with her. When problems came up, I would then consult with the teachers who taught Dana before me. We haven’t had any training about teaching visually impaired students, but we try to find solutions for her. (Lecturer 10)

Additionally, two lecturers reported that they struggled to explain images, tables, and computer information to Dana. None of these lecturers received any explanation about how to teach this kind of information to SWVI (Lecturers 9 & 11).

However, the study’s participant lecturers showed a high level of awareness and a serious desire to support Dana (Lecturers 9-11). For instance, one lecturer stated that she tried to speak very clearly in her classes because she understands that most of Dana’s learning is actually oral, and that Dana relied on her hearing and memory to remember lecture information (Lecturer 11). All the lecturers interviewed took some initiative to make the required adjustment Dana needed for her course materials. Some found this process very time consuming. Her English lecturer stated that she
needed to prepare vocabulary lists for Dana whenever new vocabulary was needed. When they had a grammar test, this lecturer prepared the exam sheet for her in electronic text format and emailed it to her ahead of time (Lecturer 10).

One of the main obstacles facing Dana’s lecturers was obtaining the support they needed from the Office of Accessibility to accommodate Dana. For example, the lecturers interviewed reported that they were responsible for providing Dana with the required adjustment she needed for her study materials, which most of them found it time consuming. Moreover, these lecturers did not receive any training or any explanation about how to teach SWVI. The officers at the Office of Accessibility themselves experienced some challenges in providing Dana with the reasonable accommodation she needed (Lecturers 9-11).

5.6 Experiences of staff at the Office of Accessibility

The Office of Accessibility at ZU was established in January 2010, just one year before conducting this research. Therefore, the support staff working at this department were facing a few challenges accommodating Dana, such as a lack of experienced officers and a lack of funding (Officer 4).

During the academic year 2010/2011 there were two officers working at the Office of Accessibility. Neither of them had studied special education, nor had previous experience with SWVI before working with Dana (Officer 4). They could not identify Dana’s special needs, or specify what kind of adjustments would be reasonable for her studies. They could not ask the Ministry of Higher Education for any support because the Ministry itself did not have department for students with disabilities. (Officers 4 & 5).

The second obstacle facing the Office of Accessibility was a lack of funding. As the Office of Accessibility was set up in January 2010 after the beginning of the financial year, its expenses were not included in ZU’s budget for the academic year 2010/2011. The ZU budget only covered the salaries of officers working at this department. The Office of Accessibility reported that its budget did not provide enough funds to provide Dana with the assistive technology she needed. Therefore, they relied on donations to purchase assistive technology devices for Dana (Officer 4). An officer at the Office of Accessibility stated:
We need strong financial support to improve our services. Usually, students with disabilities need a lot of funding for their equipment, training, and special materials. (Officer 4)

What made the Office of Accessibility’s mission very effective in the first two years of Dana’s studies was their relationship with Tamkeen. Tamkeen identified Dana’s special needs and suggested the type of training she should undertake and the assistive technology she should use. Also, Tamkeen arranged a special campaign to increase the level of awareness among ZU students about how to support SWVI. In addition, they participated in a few meetings to explain to Dana’s lecturers what kind of adjustment Dana would need for her studies. Without Tamkeen’s support, the Office of Accessibility would not be capable of providing Dana with all the provision she received for her studies (Officer 5).

In 2012, a computer and assistive technology trainer moved from Tamkeen to ZU. This officer was the same trainer who worked with Dana, and she had good experience in the field of vision impairment. This helped the Office of Accessibility to improve their services and to be fully independent in accommodating SWVI (Officer 5).

5.7 Chapter summary

Zayed University established the first disability department, the Office of Accessibility in January 2010 after the first SWVI Dana joined ZU. Dana faced a number of challenges during her study at ZU including a lack of required training, challenges in her classrooms, difficulties in studying some subjects, and difficulties in accessing information. She also experienced low levels of awareness among sighted students at her university. Most of the challenges Dana faced in her studies at ZU may have been related to the fact that she did not receive any preparation for university life when she was at school. This made the first two years of her studies at ZU very challenging, not only for her as a SWVI, but also for her lecturers.

The lecturers at ZU faced a number of challenges in educating Dana related to a lack of information about Dana’s special needs, challenges in adjusting her course materials, lack of experience in providing Dana with the reasonable accommodation she needed for her classes and exams, lack of support from the university and lack of training in educating SWVI.
The Office of Accessibility at ZU also faced a number of obstacles in accommodating Dana. These obstacles included a lack of experienced personnel, lack of funding from the university and lack of support from the Ministry of Higher Education.
Chapter Six

The United Arab Emirates University case study

6.1 Introduction

The United Arab Emirates University (UAEU) was founded in 1976. It was the first university in the Emirates (UAEU, 2010a), and the first higher education institution offering some provision for SWVI in the country in the 1990s (Officer 1).

This chapter represents a case study of the SWVI experiences at UAEU. The data of this case study were gathered during the academic year 2010/2011. During this period, UAEU was working to deliver a new policy for students with disabilities. This policy came out in 2012. Thus the old policy was used to analyse the level of provision for the SWVI attending UAEU. This policy is particularly relevant to the students’ experience at the time of this case study. However, the new policy will be reviewed also in this chapter.

Twelve SWVI, aged between 19 and 23, were interviewed for this case study (four males, eight females, Students 1-12, see Table 1, p. 46). Three SWVI were completely blind, three legally blind and six partially sighted (Students’ visual impairment level was categorised through the SWVIs’ medical reports, by using the definitions of Australian Institute for Health and Welfare of visual impairment, and by using the definitions of Senior Helpers, see chapter One, pp. 7 & 8).

Nine of these students were Emirati, and three from other parts of the Middle East. The nationalities of these three students were kept confidential to protect their identity. Two of these students were studying law, and the other students were studying different majors including: Geography, Public Relations, Business, Mathematics, Engineering, Policy and Education. Three students were in their first year and had not chosen their major when this study was conducted. In addition, observations of three students who have different types of visual impairments will also be presented. These students were observed in their classes, while moving around their campuses, and as they engaged in their social activities at their hostel.

Eight lecturers (six male, two females) were interviewed for this case study (Lecturers 1-8 in the table of participants, see table 2, p. 46). These lecturers were from the departments of English, Mathematics, Business, Computers and Arabic.
Five were from the University General Requirement Units (UGRU). One lecturer had worked at UAEU for 20 years, another for three years, while others had been employed at the university for between three to 16 years. These lecturer represented different nationalities including the Emirates, the United States, the United Kingdom, Egypt, Morocco and Jordan. Most of the academic staff interviewed taught one or two SWVI. One taught four, and two taught more than seven SWVI.

Finally, three university staff were interviewed (Officers 1-3, see table 3, p. 48). One worked at the Disability Centre, another one was working in the administration department and the third officer was working at the female hostel. One had more than 20 years of experience at UAEU, another 10 years of experience, and the last officer had only 18 months of experience at UAEU.

I also lived at the UAEU female hostel for one month to conduct this case study. Hence, I will draw on my own experience as a person with visual impairment who experienced a number of challenges while collecting the data for this case study.

Finally, documents from the UAEU website were collected for later content analysis in order to highlight the disability services offered to SWVI at this university. Additionally, an unpublished document about the UAEU new policy for students with disabilities was analysed for further explanation.

6.2 Background of UAEU

The United Arab Emirates University was founded in 1976 to be the first federal institution offering free tertiary education to UAE citizens. The first academic year, 1977/1978, offered subjects across four faculties: the Faculty of Arts (known now as the Faculty of Humanities and Social Sciences), the Faculty of Science, the Faculty of Education and the Faculty of Administrative and Political Sciences (known now as the Faculty of Business and Economics). In 1978, the Faculty of Sharia and Law was opened. Another two faculties were established in 1980 – the Faculty of Agricultural Sciences and the Faculty of Engineering. In 1986, the Faculty of Medicine and Health Sciences was opened and in 2001, the Faculty of Information Technology was established (UAEU, 2010d).

The first Masters degree program was established at UAEU in 1991 in the Faculty of Science. Now, Masters programs are offered in all UAEU faculties (UAEU, 2010c).
The first Doctoral programs was introduced at UAEU in 2009. Presently, this program is offered in seven different faculties. The Doctoral program at UAEU follows an American model that includes one year of course work and a written thesis completed over two to three years (UAEU, 2010f).

The number of students has increased at UAEU from 502 students in 1977 to approximately 15,000 students in 1996. In the 2010/2011 academic year, there were over 12,000 students studying at UAEU (25% males; 75% females) (UAEU, 2010d).

In 2006, the government of Abu Dhabi granted 80 hectares of land to UAEU to build new campuses. This land is located alongside the Al Ain-Abu Dhabi Highway with occupies a total built-up area of over 298,000 square metres. The new campuses were planned to be built in three stages:

**Stage 1:** Buildings encompassing the Female Residences, Village, Academic and the Shared Labs were completed.

**Stage 2:** The Crescent building which includes the main Administration, Great Hall & Main Library were completed.

**Stage 3:** The Male Academic, Village & Sports Facilities was not completed during the time of conducting this study (UAEU, 2010e).

### 6.3 Disability support services at UAEU

UAEU started to accommodate SWVI in the 1990s. During this period the number of SWVI who registered to study at UAEU increased. Most of these students enrolled in the Faculty of Humanities and Social Sciences. UAEU established official services for SWVI at this time by employing a special officer to supervise the provision for SWVI. UAEU also provided these students with Braille typewriters, which was the first time UAEU had purchased special equipment for SWVI. These services were discontinued after a few years when the special officers for SWVI left the university (Officer 1).

In 2010, UAEU established a new disability centre on both the male and female campuses. When the new female campus opened, the disability centre was not yet ready to establish their services. There were not enough officers, equipment or even office space. Therefore, the disability centre started its services at the same time as setting up its new department. One room in the female students’ village was designed
to be an assistive technology laboratory. This laboratory housed a range of technology such as computers with screen readers, flat screen monitors, a Braille sensor, electronic magnifiers, scanners, and printers. Another assistive technology laboratory was established on the main male campus to offer the same services to male students. It has the same equipment of the laboratory on the female campus, but it was also provided with a Braille printer (Officers 1 & 2).

The main purpose of establishing the disability support centre at UAEU was to ensure that students with disabilities have access to all services offered at the university, and to create a welcoming and accessible educational environment for these students (UAEU, 2010b). According to the UAEU website, disability support services are offered to students with disabilities, as well as to the academic staff who teach these students. These services include:

1. Identifying individual needs for students with disabilities
2. Providing SWVI with reasonable accommodation for their classes, study materials and exams
3. Promoting disability services to these students
4. Providing students with disabilities with assistive technology for their studies at UAEU
5. Arranging training for both students with disabilities and academic staff in the use of assistive technology
6. ‘Advocating for campus accessibility for all persons with disability at UAEU’, and
7. Cooperating with UAEU faculties and staff members to provide complete support to students with disabilities (UAEU, 2010b).

UAEU delivered a new policy for students with disabilities in 2012. This policy included providing students with disabilities and their academic staff with the same services that explained at UAEU website. However, the new policy clarifies the rights and responsibilities of students with disabilities, and explains faculty members’ rights and responsibilities. The new policy also stresses that students with disabilities have the right to be protected from any kind of discrimination on the basis of disability, and strives to remove any attitudinal barriers faced by these students (UAEU, 2012).
6.4 Students with vision impairments experiences at UAEU

Although UAEU established a new department to accommodate students with disabilities in 2010, the SWVI who took part in this case study experienced significant challenges in obtaining reasonable accommodation for their studies. These challenges include lack of required training, difficulties in adjusting to university life in the first year of study, lack of awareness of disability within the UAEU community, limitations in choosing study areas, difficulties in studying some subjects, challenges in accessing information and in moving around in the physical environment.

6.4.1 Required training

SWVI need to undertake specific training before starting university in Braille, orientation and in mobility and the use of assistive technology. These types of specific training areas are essential to prepare these students for higher education, and provide them with the skills they need for their studies.

6.4.1.1 Braille training

The analysis of the interview responses regarding training for the SWVI suggested that most of the blind and legally blind students who were studying at UAEU during the academic year 2010/2011 had not received enough Braille training (Officer 2). For example, six students out of 12 were blind and legally blind. Five had received Braille training, but only three students were able to read Braille easily. Students’ Braille levels were measured through the information given by the students themselves in their interviews, and also through my own observations as a Braille trainer.

Blind students who graduated from special centres for students with disabilities, or received some training at these centres, generally had better Braille skills than blind and legally blind students who graduated from mainstream schools. However, not all blind students who graduated from special centres had good Braille reading and writing skills. Some students maintained that their Braille trainers at these centres had not had extensive experience in teaching Braille (Students 2, 3, 9, 11 & 12).

Moreover, some students stated that their Braille training was too short and they were not able to do enough practice, or to learn all Braille codes. One student
reported that her training was only for one week; when I asked her to read some Braille writing, she was not able to recognise some Braille letters. Another student stated that her Braille training was conducted over three months, through my observations with this student; I found that she could not use a Braille typewriter correctly (Students 6 &11).

Interviews with some lecturers indicate that blind students who are Braille-illiterate, or partially Braille-literate did not have good writing skills, especially in English because they do not have adequate exposure to written English (Lecturer 5). Furthermore, the analysis of the interview responses from the UAEU participants show that blind and legally blind students who could not read Braille fluently could not use Braille technology either. Although UAEU had purchased some Braille technology for the assistive technology laboratory, most SWVI did not benefit from having this technology because many could not read Braille fluently (Student 1-12; Lecturer 5; Officer 2).

6.4.1.2 Orientation and mobility

Orientation and mobility are basic skill areas that SWVI need to develop during their childhood. However, in higher education, SWVI need to undertake further mobility training at their university before starting their studies. Through this training, they need to learn how to move independently from one building to another and to orientate themselves within their campus.

All the SWVI who were interviewed at UAEU had not received any mobility training during their schooling, or any mobility training on their campus. Only one student of 12 had taken a short course in mobility training at Tamkeen; he was the only blind student who could move independently around his campus. All legally blind and partially sighted students stated that they were not willing to use the white cane, because they did not want their disability to be identified. Additionally, some blind students stated that they were willing to undertake this training, but could not find an organisation close to their accommodation offering this training (Students 1-12). As a result, many students experienced some difficulties learning how to move around on their campus in their first year. A legally blind student stated:

I wasn’t able to manage my mobility when I started my studies at UAEU. I wasn’t familiar with the campus, and I didn’t know how to get to my
classes. My friend assisted me until I learnt how to move independently. (Student 11)

Another student stated that he always needed someone to show him the location of his classes prior to the beginning of each semester. He said that he usually takes two to three weeks to learn how to get to his new classes (Student 3).

Other SWVI reported different types of struggles. A partially sighted student stated:

My friend used to help me to get around in my first semester, but she wasn’t always there when I needed her. Occasionally I had to move to my classes alone. It took me half an hour sometimes to find the right class. (Student 8)

A lecturer in the UGRU Department commented:

I had a blind student who was not independent in her mobility. She wasn’t always able to find someone to assist her. She often could not get to her classes on time. (Lecturer 5)

Moreover, in the academic year 2010/2011, female students moved to a new campus at UAEU. As a result, the female SWVI needed to orientate themselves to this new campus, and learn how to move independently. The majority of these students found it difficult to manage their mobility within this new physical environment, as one officer at the female hostel stated:

The SWVI moved to the new campus without undertaking any mobility training. It was difficult for sighted students to know the locations of their buildings and how to get to the campus. It was even more difficult for those with vision impairments. (Officer 3)

6.4.1.3 Computer training

Computer training was the third important area that most SWVI had not received training in before they joined UAEU. Only three SWVI at UAEU undertook training in using screen readers before starting their university studies. Only one student attained competent computer skills and was able to use different assistive technology devices. The second student did not have very good computer skills, and the third student was not able to use computers at all. This student said that she took computer training for one month and it was not enough time for her to learn both the functions of the screen reader and touch-typing (Students 2, 3 &11).
Moreover, all the legally blind students at UAEU did not undertake computer training. Only one student of these three learned how to use computers, however, he could not use computers for long periods of time. He relied on his eyes to read the screen, but was not able to do so for more than five minutes (Students 1, 9 & 11). Finally, partially sighted students who had a good level of sight had better computer skills than those who did not. The only software used by some partially sighted students at UAEU was Lonar magnification (a special software package that enlarges the font size on the computer screen up to 8 times). None of the partially sighted students received training in the use of screen readers and most thought they did not need to learn how to use this software (Students 4-8 & 10).

The SWVI who did not have very good computer skills faced many challenges when completing their assignments, touch typing, browsing and accessing internet websites, participating in class activities, studying computer units and when attempting some exams (Students 1-3, 9-12). A legally blind student pointed out:

> My typing is very slow. I think if I used the computer in my exam, I would take one whole day to answer one exam. (Student 1)

This issue not only affected the learning abilities of SWVI but also made things more difficult for their lecturers, especially those who taught at the University General Requirements Unit (UGRU). Most SWVI did their UGRU units in one-to-one classes. In these classes, the teachers lacked an easy way to send students educational materials that would be readable for the SWVI. Instead, these lecturers needed to receive the SWVIs’ assignments and homework as Word documents. Nevertheless, many SWVI did not know how to use Word software. Additionally, many teachers needed to conduct class activities with the SWVI using computers, which was extremely difficult for some students (Lecturer 3-5 & 7).

Some SWVI at UAEU used laptops with screen readers. Many had received these laptops as donations from different organisations within the UAE. However, these students did not use their laptops at university, because they had never been formally taught how to use the screen readers on their laptops (Student 2, 6, 11 & 12).

Additionally, the computer lecturers at UAEU had not received any training in the use of visually impaired software, and were not qualified to teach computer subjects to SWVI (Student 3; Lecturer 5). An English lecturer in the UGRU department stated that her blind student had finished her UGRU computer units successfully. As such,
this teacher asked the student to bring her laptop so that the student could use this to carry out class activities. Nonetheless, the student could not use the keyboard to access her electronic study materials, or even check her emails. She was more comfortable using the Braille typewriter in the class than her laptop. The teacher allowed the student to use the Braille typewriter in the class, but she needed to ask this student to spell every single English word for her, which was time consuming (Lecturer 3).

Moreover, many partially sighted students studying at UAEU during the academic year 2010/2011 had not received any preparation before starting their university studies. All stated that they were not categorised as vision impaired during their schooling, and consequently, they did not undertake any training (Students 5, 7, 8 & 10). A partially sighted student stated:

I did a vision test during my schooling, but no one categorised me as a vision impaired. My disability was identified when I started my university.
(Student 10)

Some academic staff believed that SWVI enrolled at UAEU with insufficient preparation at school were not able to easily pass some of their subjects, such as English and computer. Also many of them struggled to adapt to university life in their first year (Lecturers 5 & 7).

6.4.2 First year of university

The SWVI participants in this case study stated that moving from high school to the university was quite challenging. Many found the university environment very complex in comparison to their school environment. They moved from a school life where they were usually told to do things and received adequate support from their family, to a university life where they were expected to be independent. Some students thought of quitting university in the first year because they found it too difficult to adjust to the university life (Students 1-12).

Lecturer 4 stated:

SWVI join university at a critical age. Most of them find the university a new experience. For example, most female students who joined the university had not been taught by a male teacher before. (Lecturer 4)

A partially sighted student commented:
In my first year at UAEU, I had to learn how to study many materials in a very short time, and how to deal with lecturers from different cultural backgrounds. (Student 4)

Another student commented:

When I was at school, my special needs were covered by only one administration, but when I moved to the university I had to deal with a number of administrative branches. (Student 5)

Adjusting to a new educational environment was not the only problem that facing the SWVI in their first year. Some students needed counselling support; however, this service was not offered at UAEU. A legally blind student went through a particularly difficult experience as a result of his eye condition. He was involved in a car accident two years before joining the university that resulted in the loss of his sight in one eye and poor vision in his second eye. As his eye condition could not be stabilised, some of his doctors thought that he might lose his sight in the future. This student did not receive any training as a person with vision impairment, thus and it was not easy for him to accept his disability. The kind of supportive counselling program he needed was not offered at UAEU (Student 1; Lecturer 7). One of his lecturers stated:

My student had serious depression issue. He wasn’t able to forget his life when he was sighted, and he wasn’t able to adjust to his new life as vision impaired. He needed to talk about his feelings and his problems with someone. He is thinking about quitting university. (Lecturer 7)

In addition, some students stated that before they started their studies, some administrators at UAEU promised to provide appropriate resources to meet their special needs. However, in reality, this provision was less than what they had been told. This made their first year at UAEU difficult because they needed to work out on their own what kind of support was available for them and what they needed to do to cover their special needs (Students 2 & 3).

6.4.3 Awareness levels

An investigation of cultural attitudes toward SWVI at UAEU is significant to any evaluation of the level of provision that needs to be made available to these students in their community. Many of the students interviewed at UAEU were not fully independent and required different types of support from their classmates, lecturers
and university staff. The following section will outline what emerged from the data analyses derived from interview responses related to social attitudes towards SWVI at UAEU community through sighted students, lecturers and finally administrators and officers. Additionally, the level of awareness among the SWVI about their disability will also be highlighted.

6.4.3.1 Sighted students

The participating SWVI often turned to sighted students either classmates, friends or roommates, for support. In response to one interview question, some blind students said they received strong support from sighted students with their mobility and study needs (Students 9, 11 & 12). Blind students stated that although sighted students could understand their special needs, not all of them offered their support (Students 2, 9, 11 & 12). The SWVI maintained that the level of awareness among sighted students needs to be improved. Many SWVI maintained that their classmates and friends used insensitive language without realising that it hurt them (Student 1, 5-8).

A lecturer in the UGRU Department said:

> Sometimes the SWVI may bump into a sighted student when they walk around. Some sighted students may use some harsh comments such as: what’s wrong with you? Are you blind? These comments embarrass those with vision impairments. (Lecturer 4)

In addition, some SWVI stated that their classmates did not believe in their abilities. A partially sighted student said:

> When I got a good result, some of my classmates thought that I took this mark because I was treated as a special needs student. (Student 7)

Another student stated:

> Some of my classmates don’t believe in my abilities. They think that my lecturers solve the exams for me, and that’s why I usually take high scores. (Student 6)

Most of the students with low vision pointed out that sighted students could not understand their special needs and most of them did not offer their help (Students 6-8 &10). A partially sighted student maintained:
My classmates are unaware that students with low vision have additional needs. Some of them question why I take special exams though I’m studying like them. (Student 7)

Student 8 commented:

When I walk with my classmates they ask me to walk quickly. They don’t understand that I cannot walk quickly because I cannot see my way clearly. My classmates also criticise my handwriting. They cannot understand that I cannot write better because I’m vision impaired. They don’t know that this kind of criticism hurts me. (Student 8)

These attitudes towards students with low vision may come from the fact that it is difficult for sighted students to recognise these students’ disabilities. Additionally, through the interviews I conducted at UAEU, I found most of the SWVI seemed sensitive when talking about their disability with sighted students and felt uncomfortable explaining how they would like to be treated (Students 6-8 & 10).

Some educators at UAEU believed that most sighted students did not know how to treat the SWVI. Some sighted students become too supportive and others expressed that they feel pity towards these students. They also do not know the best way to offer their assistance (Officer 1).

6.4.3.2 Lecturers

The second group that SWVI relied on for provision was academic staff. Many SWVI interviewed stated that most lecturers at UAEU were helpful and understanding. However, some students pointed out that some lecturers were not willing to have them in their classes. According to student 7:

When I explained my special needs to one of my lecturers, he was not happy having a SWVI in his class. He told me that I was a burden for his class, and he asked me to change my major. (Student 7)

In addition, some students pointed out that some lecturers treated them differently once they knew about their disability. A few stated that some of their lecturers did not allow them to participate in class activities after they had told them about their impairment (Student 5 & 8).

Another student stated:
Some lecturers treated me with high level of pity when they knew about my impairment. One of them told me that I don’t need to do any exams for his course except the final and the midterm exams. I refused and I asked him to treat me equally to my sighted classmates. (Student 5)

Some students also stated that their lecturers did not believe in their abilities. As a partially sighted student put it:

I did very good research about “Mathematical modeling of cancerous tumors and immune system interaction. When I presented my research figures in a seminar, many of the lecturers did not believe that it was me who did this work. They thought that my supervisor had done it for me. (Student 6)

Some students with low vision stated that their lecturers do not understand their special needs. They do not know how to accommodate them in their classes, why they should be treated as special needs students and what kind of technology they use (Student 4-7).

Student 10 stated:

My maths teacher thinks that there is no difference between me and my sighted classmates because I look just normal. (Student 10)

Another SWVI said:

Some of my lecturers were very surprised when I began using my magnifier in their classes. Some of them thought that my device has recording option. I explained to them what it does. None of my lecturers had seen any device like that before. (Student 4)

Some SWVI also stated that their lecturers do not understand the reality of their impairment. A blind student said:

One of my lecturers used to speak very loudly to me. I asked her after few lecturers why she does that. She told me that she wants me to hear her voice. I explained to her that I don’t have hearing impairment. (Student 3)

Furthermore, some students pointed out that when they asked their lecturers for assistance, some showed a high level of understanding, but others did not. A few students stated that as a rule, they would ask their lecturers for help only once. If their lecturers were willing to assist, they would ask them again, but if they were not willing, they would not ask them for any further assistance (Students 2 & 12).
6.4.3.3 University staff

The third group that SWVI needed to receive support from was the university staff at UAEU. A few of the administrators and officers who were interviewed held very positive attitudes towards students with disabilities. A highly ranked officer at UAEU stated:

We should not talk about disability when it comes to education. We believe that students with disabilities are capable of pursuing their education. However, they need some help, and I think they need some support. (Officer 1)

In spite of that, some SWVI pointed out that some administrators had negative attitudes towards them. One student stated that when she started her major, she went to the Assistant Dean of her college to explain her special needs to her. She showed her a medical report that explained her eye condition. The Assistant Dean did not read this report. Instead, she asked the student to leave the college and continue her eye treatment. The student was very disappointed, and did not return to ask the Assistant Dean for any further assistance after that incident (Student 5).

Some students also pointed out that they did not feel comfortable asking the university staff at their faculties for any assistance when they needed it because they had had bad experiences with one or two officers in their faculty. A blind student stated that she avoids asking the administrators at her college for any assistance when she needs it, and she tries to solve her problems on her own. This student stated that she had had bad experience with her academic supervisor when she asked her to help her with the enrolment process. However, her supervisor advised her to ask her friends for further assistance (Student 12).

In addition, some administrators at UAEU were not fully aware of Federal Law of the rights of Persons with Disabilities, enacted in 2006. Most of the colleges did not make any changes to their policies in terms of accommodating students with disabilities and continued to follow their previous practices (Officer 1). One of the administrators at UAEU stated:

When we send a report of a SWVI to any faculty, the answer that usually comes from the college is that we had a student with vision impairment before and we used to do this and this. They follow what was practiced before. They do not follow what is written in this law. (Officer 1)
The same officer also stated:

Some educators at our university are still think that people with disabilities should be segregated. (Officer 1)

Lecturer 2 stated:

I think it is easy to solve any issue about an individual’s special needs, but we cannot solve other issues related to cultural barriers. How can we control the way people think? (Lecturer 2)

6.4.3.4 The SWVI

All the SWVI who were interviewed at UAEU were asked about the following: their medical eye condition, their sight level, the adjustment they needed for their education, their knowledge about their rights as students with disabilities and what kind of support was provided at their university.

It is important for university administrative and academic staff to understand the sight levels of SWVI in order to provide them with reasonable and appropriate accommodation for their studies. All the SWVI at UAEU were able to describe their medical eye condition; however, not all had a clear idea about their own sight level (Students 1-12).

Moreover, although the blind and partially sighted students were aware of the provision they need for their education, the legally blind students could not explain the accommodation they required. Nevertheless, many of the participating SWVI were not sure about what types of provision offered at UAEU. When the students were asked about that, the first response to come from the students with low vision was that the university’s disability centre could copy their materials onto A3 paper, provide magnification software and electronic magnifiers (Students 4-8 & 10). The students in the first year of their studies stated that they had no idea about what types of supports were offered through the disability centre (Students 1, 10 & 11).

Although the university’s disability services were explained on the UAEU website, all the information was in English; there was no accompanying Arabic translation. Most of the SWVI studying at UAEU did not have a very good understanding of English, and only a few were able to use a computer to access the Internet. This meant that the majority of SWVI could not access any information about the disability services through the UAEU website (Students 1 & 2, 8-12).
Furthermore, all the students who were interviewed at UAEU were asked about their knowledge of Federal Law No. (29) Concerning the rights of Persons with Disabilities and their understanding about their rights as students. Only one student of the 12 participants had read this law; however, this student did not seem to have a clear idea about her rights (Student 12). Three students stated that they knew their rights very well, although they had not read the law. These students pointed out that the law has not been implemented in the UAE yet, and they have not yet been able to exercise their rights as students with disabilities (Students 3, 5 & 6).

6.4.4 Limitation in choosing the study area

One of the more serious issues faced by a number of SWVI at UAEU was being able to freely choose their majors. Approximately 33% of the students interviewed maintained that they faced some discrimination in choosing their study area for two reasons: firstly, some of the majors students wanted to select required studying a few subjects that need to be adjusted for SWVI, and many faculties did not have enough experience to make such adjustments possible. Secondly, many academic staff and officers at UAEU believe that SWVI are not capable of studying some majors such as Mathematics, Education, Business, and Television and Radio Broadcasting. These majors required students to have developed strong computer skills, and to undertake practical training in using images in many subjects. Consequently, the SWVI experienced significant challenges in their attempts to gain access to these majors (Students 3, 6, 7, 8, 11 & 12).

A blind student related that he wanted to study Television and Radio Broadcasting. To study this major he needed to do two subjects that involved using television cameras. He was not accepted into this major because as a blind student as it was assumed that he would not be able to study these subjects. Although he tried to convince his faculty members that he was capable of mastering these subjects, his argument was not accepted. The only choice he was given as a blind student in the Mass Communication Department was to study Public Relations (Student 3).

Another student maintained that she wanted to study Physics, but was told that the Physics laboratories were not accessible for SWVI. Therefore, this student decided to study Mathematics. Nevertheless, the Faculty of Science turned her application down due to her impairment. She was very disappointed, especially as she had achieved high marks in Mathematics when she was at high school. She spoke to the Faculty of
Science staff a number of times, and demonstrated her strong determination to study this major. She was told that if she were permitted to study Mathematics, she would need to carry the whole responsibility of making the required adjustments for her studies herself, as there was no support available through the faculty. She accepted this situation in order to study what she most wanted (Student 6).

As another instance, a blind student who wanted to study Geology was not able to enrol in any scientific majors as she had not studied enough high school science subjects. Thus, she decided to study Environmental Geography. She thought that this major would be close to Geology. When she registered at UAEU, the Admission Department enrolled her in the School of Sharia and Law without informing her. She explained to them that she did not choose to study this major but she was told that Sharia is the best major for blind students. She requested a transfer to the Human Sciences faculty; however, her application to study Geography was not approved by the Geography Department. She was told that Geography is not an accessible subject area for blind students because she would not be able to study subjects based on images, such as maps. She was asked to choose another major such as Arabic Language, or Psychology; however, she refused (Student 12).

This debate continued for almost a year and a half. During this time, the student studied some compulsory subjects in the Faculty of Human Sciences, and some basic subjects in Geography. Her marks in her Geography subjects were between A, B+ and B. Finally, she was accepted in the Geography Department. Nevertheless, she was told that she has to cover her special needs herself. This student said:

> When I decided to study Geography, some academic staff at the Department mocked at me. They told me that they never heard of a blind student who wanted to study Geography. They asked me what I would work in after my graduation. Some of my friends also tried to convince me to change my major, but I never let those comments put me down. (Student 12)

Although the SWVI who decided to study Math, Business and Geography did not receive sufficient provision for their studies, these students were very determined to pass their majors to a high standard (Students 3, 6, 7 & 12).
6.4.5 Challenges in studying some subjects

All the SWVI who were interviewed maintained that they faced challenges studying some subjects at UAEU. English, Computer and Mathematics represented the most problematic units to study for these students.

English language and Computer Studies are pre-requisites for studying many majors at UAEU. Thus UAEU requires the University General Requirements Unit (UGRU), which contains English, Arabic, Computer and Mathematics units, to be successfully completed in the first year in order to get into their majors (UAEU, 2010g). Some SWVI faced serious challenges when attempting the UGRU. Therefore, the UGRU Department at UAEU created one-on-one special classes for SWVI to ensure that they received assistance with their UGRU units. In spite of that, some lecturers in the UGRU Department believed that one-on-one classes were not enough to give the SWVI all the provision they needed to improve their academic skills entering their majors (Lecturers 5 & 7).

6.4.5.1 English

The English language has become the basic language for studying most majors at UAEU. Many students in the UAE graduate from high school with a primarily Arabic curriculum and are inadequately prepared for higher education studies conducted in English. For this reason, UAEU designed special English courses to improve Arabic students’ English language speaking, reading, listening and writing skills. Students at UAEU must pass three English levels as a part of their UGRU preparation. Alternatively, students can take a test within the International English Language Testing System (IELTS), or the Test of English as a Foreign Language (TOEFL) and on achieving a specific pre-determined score, can proceed with their course majors (Alhammadi, 2011; UAEU, 2010c).

Findings from the SWVI interviews indicated that 50% of these students failed at least once in either their English test or their English course. A blind student stated that he studied Level 1 English twice and Level 2 twice. At the time of the interview, he had not completed Level 3 English. As a result, he was not permitted to study more than three units each semester until he passed all the required English levels. He indicated that this requirement would likely delay his graduation. He was worried that he would not be able to pass Level 3 English (Student 2). Another legally blind
student said that she was at risk of being excluded from the university because she had failed the UGRU English units a number of times (Student 9).

Most of the SWVI stated that reading and writing were the most difficult English skills for them to learn. An English lecturer at the URGU department stated:

SWVI don’t have strong reading skills when it comes to their second language. However, their listening and speaking skills are better than sighted students. (Lecturer 3)

The SWVI interviewed pointed out that they needed a long time to read English materials even when they were provided with materials in accessible formats. This made them feel uncomfortable reading in front of their classmates and meant that they were unable to participate in class activities (Students 5, 7, 8 & 10). A legally blind student said that as he uses an electronic magnifier to read, he takes a long time to go through any English text. It was hard for him to find the answers to the questions during the reading comprehension tasks as he got lost in the text easily and needed to read it a few times (Student 1).

Around 80% of the partially sighted students interviewed pointed out that they could not finish the reading part of their English exams on time. Some of these students received an extra 50% of the allowed time for their exams, while others received twice the allowed time. Although many of these students think that such additional time could be enough to complete their Arabic exam, they thought it may not be enough for their English exams, as they cannot read English at the same speed as they can read Arabic (Students 4-8 & 10). Student 5 elaborated:

I received 50% extra time in my exams. This time was not enough for me to do the reading part of my English exams. I was not able to answer all the questions. I cannot read with my eyes for very long periods. (Student 5)

In addition, many SWVI related that their English writing was not as good as their sighted classmates. Most of them stated that they relied on their hearing to study English at school. As a consequence, they did not develop any written English skills, such as spelling. This meant that their English teachers could not check their writing as for their sighted classmates. Many SWVI said that they did not know how to spell basic English words such as the names of the days of the week, months, fruit and vegetables, when they started their university (Students 1-4; 9-12).
Another obstacle facing many SWVI was reading the notes on the board. This particular task posed problems, such as learning how to spell a new vocabulary, as sighted students simply copied words from the board. Also, some partially sighted students stated that they could not read their study materials easily, even when they were provided with large font materials. This made the process of improving their English writing even more challenging compared to their sighted classmates (Students 4-5; 8-10).

Furthermore, most of the blind and legally blind students studying at UAEU during the academic year 2010/2011 were Braille illiterate, or semi-illiterate. Some English lecturers stated that students who had read a lot of English using Braille were better at their English spelling than their Braille illiterate student peers, as they could access the words more readily and may have read the words multiple times. Also, the English writing skills of students who were completely dependent on reading English by using their computers were not as strong as those of students who depended on Braille. People with vision impairments usually use the computer through a screen reader, so they are dependent on their hearing to access information through their computer (Lecturer 5).

Completing the listening task in the English exams was another challenge faced by the SWVI. An English lecturer commented:

> It is difficult for the SWVI to listen and read the questions at the same time. We cannot ask them to listen to the whole tape, and then answer all of the questions. Nobody could remember whole the listening task. The SWVI should read one or two questions and then listen to a very short passage then answer these questions. (Lecturer 5)

Additionally, the SWVI struggled to use dictionaries. Many stated that they could not search for the meaning of new vocabulary independently. The partially sighted students found it difficult, because all English-Arabic dictionaries are written in very small font sizes. In contrast, the blind students did not have enough computer skills to use electronic dictionaries. They also did not find the Braille dictionary useful, as it is printed in multiple volumes (Students 1-4; 8-12).

Another challenge facing SWVI in learning English was the need to attempt the IELTS exam. All the SWVI who took the IELTS exam maintained that they did not receive sufficient preparatory provision for their exams. All the students stated that
IELTS is a very long exam (3 hours and 15 minutes for sighted students, and over 6 hours for SWVI), that cannot be completed by SWVI within one day (Students 4 & 5). A partially sighted student said:

I did the IELTS in seven hours. I went to the college at 8am and finished my exam at 3pm. I wasn’t able to read the last passages because I was too exhausted. (Student 5)

Most of the SWVI found the reading section of the IELTS exam very tough because it contains three readings, each between 1500 to 2000 words, and 40 questions (Alhammadi, 2011). A student with vision impairment said:

I couldn’t concentrate in the reading part of the IELTS exam. Firstly, it was the last part of the exam. Secondly, it was very long. Thirdly, the format of the exam into columns made it very difficult for me to find answers for the questions. (Student 5)

Another student stated that she wanted to do the IELTS exam with a test-reader, but all the institutions she contacted in the UAE refused to provide her with a test-reader. She was told that the IELTS is an international exam, and she had to read it herself whether in Braille, or formatted in large font. She could not read Braille fluently, nor could she read for a very long time, even if provided with large font materials. As a result of these barriers, she could not attempt the IELTS (Student 6).

Another problem the students faced with the IELTS exam was that if they wanted to apply for any kind of special materials as a student with disabilities, they needed to request these materials three months before the exam date. A partially sighted student said that she waited six months to take a special IELTS exam. Another student stated that he waited three months to undertake the IELTS exam using A3-sized paper (Students 4 & 5).

6.4.5.2 Computer studies

All students at UAEU are required to complete two compulsory computer units as part of the UAGRU program. In addition, some majors contained some compulsory computer subjects. Most of the SWVI interviewed faced serious struggles completing their compulsory computer subjects. Some of them failed once or twice in these units, and others were at risk of being excluded from the university because they were not able to pass the pre-requisite computer units. All these students pointed
out that their computer lecturers seemed to have no idea about how to explain
computer information to them. Some partially sighted students stated that their
computer lecturers use Microsoft PowerPoint, or visual elements on the computer
screen to explain their lectures. This made them unable to follow up in their
computer classes because they couldn’t see the PowerPoint or the screen (Students 1-
3; 7-12).

In addition, some students illustrated that they had not received any training about
using the screen reader, and the computer lecturers at UAEU had little knowledge of
these programs. Even the students who knew how to use the screen reader software
faced some challenges doing their computer subjects (Students 1-2; 8-12). A blind
student said:

My computer lecturer had no idea about screen reader software. He didn’t
know how he could interact with the computer using this software. I used to
ask him about the materials one or two days prior to each lecture to do some
research, and explore how could I use computer programs through my
screen reader. (Student 3)

Although some SWVI passed the computer units in the UGRU preparation program
successfully, they did not learn all the skills they needed to use the computer because
their teachers did not teach them how to use the visually impaired software. A blind
student who finished her UGRU computer units successfully said:

I studied a computer subject as a basic requirement for the UGRU, but I
only studied some academic information. I didn’t learn how to type, how to
access my email, or how to do Internet research using the screen reader.
(Student 11)

6.4.5.3 Mathematics

Mathematics is one of the UGRU compulsory units at UAEU. The SWVI
interviewed at UAEU point out that they were facing a number of challenges in
learning Mathematics. Some students pointed out that most of their Mathematics
lecturers did not know how to explain mathematical information to SWVI (Students
2, 3, 6, 7 & 10). A partially sighted student said that her scores in the Mathematics
units were very low because she could not understand the teacher’s explanations in
the lectures. The lecturers were using the board to explain the lesson content, which
was difficult for her to see. She asked some of her lecturers to further explain this
content during their office-hours. They tried to assist her, but they did not know how to explain images, charts, and tables to a SWVI (Student 7).

Another SWVI studying Mathematics as a major stated that the biggest challenge she faced was learning how to write new mathematical symbols. Her lecturers usually wrote them on the board and she could not see the board. Note taking in Mathematics was also very challenging for her. Thus, she relied on her listening skills gather information in her Mathematics classes. Additionally, her difficulties in reading numbers made it a challenge to carry out accurate calculations. Moreover, she faced challenges writing equations because this took her much longer than her sighted classmates. Also, when she started her major, she did not have a talking calculator (a special calculator for blind), and she could not use a normal calculator. She received a donated talking calculator a few semesters after she started her major, and this helped her quite a lot (Student 6).

Not only did SWVI find learning Mathematics challenging, but also Mathematics lecturers struggled to teach these students. Some lecturers stated that the SWVI did not learn the foundational mathematics that was usually taught in high schools. Most the SWVI had not studied Mathematics through appropriate techniques at school. A Mathematics lecturer said:

My blind students knew many definitions of shapes, but they didn’t have a clue what these definitions meant. (Lecturer 7)

6.4.6 Accessing information

The SWVI participants stated that they faced serious struggles when accessing information that was available to sighted students, such as accessing the course materials, accessing the university websites and accessing the library (Students 1-12).

Analysis of the SWVI’s and their lecturers’ interview responses indicated that the disability department at UAEU did not provide these students with the adjustment they needed for their materials. As such, the lecturers at the UGRU department took the responsibility for adjusting materials for the SWVI in their first university year. However, some of them faced specific obstacles in adjusting materials for these students. One lecturer stated:
The Arabic curriculum at the UGRU has been changed a few times since I started my work at UAEU. I cannot keep the Braille materials or the audio materials I taped because I would not be able to use them again with other SWVI. I have to adjust the materials for these students every year. (Lecturer 4)

Nonetheless, when the SWVI started their majors, they could get the same support from their lecturers. The blind students at UAEU needed to have their materials in Braille, audio, or electronic formats. All of these students stated that they could not obtain their course materials in these formats through the Disability Centre. One student stated that he asked his faculty to provide him with electronic format for the course materials, but they could not do that. Thus, he asked his lecturers for the same adjustment. As many of his lecturers did not have the course materials in electronic format, this student became completely reliant on his friends to study. However, his friends were not always able to assist him when he needed. He commented:

The staff at my faculty are not aware of the existence of new technology for SWVI. When I asked them to provide me with my materials in electronic format, they asked me to find someone to read for me. I cannot ask my friends to read for me every day. It is very embarrassing. (Students 2)

Another blind student stated that his mother used to assist him with his studies when he was at high school. He left his city when he started university. Hence, he could not get the same support from his mother. When he asked his lecturers to provide him with the course materials in electronic format, he was advised that he had to solve this issue himself. He paid a private printing office to print his materials in Word format. This process was very expensive (Student 3).

The third blind student was in her final year of studies. She needed to have her materials in either Braille or audio, but she did not receive her materials in these formats. Some of her friends audiotaped some study materials for her, but they could not audiotape all the materials. She said:

I always need someone to read for me before the midterm and the final exams. It’s difficult for my friends to assist me during this critical time. They need to study for their own exams. I always become very stressed during the exams time, because I don’t know how to manage my studies. (Student 12)
It was not only blind students who had trouble receiving their materials in accessible formats, but also some partially sighted students. Although partially sighted students received their materials on A3 paper, the font size on this paper was not always readable, hence the students needed to use small electronic magnifiers to enlarge this. Other students did not feel comfortable using an electronic magnifier to access their materials, especially as they needed to carry them whenever they were reading (Students 5-6 & 10).

Some partially sighted students pointed out that they had to wait for a long time before receiving their materials in large font after they had requested these from the Disability Centre. As a result, they did not always receive their materials with enough time to prepare for their exams (Students 5 & 8). One student stated:

I asked the disability department to provide me with large font material for a few chapters two months ago, but I haven’t received them yet. My final exam will be two weeks from now and I will not be able to study independently. (Student 5)

The same student also said:

I prefer to have my materials in electronic format, rather than the A3 paper. I can enlarge the font as much as I need on my computer. Unfortunately, the Disability Centre only provides me with A3 materials. (Student 5)

Another student stated that she could not complete class reading and writing activities with her classmates as she had to wait one week to have her class materials adjusted through the disability centre (Student 8).

In addition, some students maintained that some study materials included images, which they could not understand, either because they were not big enough, or because they found them too complicated. Consequently, they could not get enough additional explanatory information about these images (Students 5-7). Also, some materials were offered in PowerPoint format. Blind students found it difficult to access these files through their assistive technology, and partially sighted students could not enlarge the font size of the images in the PowerPoint files (Students 2, 3, 6 & 7).

Adjusting materials for SWVI is the responsibility of the Disability Centre. Some students believed that the Disability Centre was relatively new and that its officers
did not yet have the required experience to adjust the SWVIs’ study materials. The Disability Centre only provided A3 materials to partially sighted students. Also, they provided some students with portable electronic magnifiers. However, the Centre did not have the capacity to provide electronic materials, audio materials or Braille materials, except for some UGRU units with the help of the UGRU lecturers. (Students 2-7, 11 & 12).

The officers at the Disability Centre also struggled to get support they needed to adjust the course materials for the SWVI. They tried to obtain electronic copies for some books directly from some publishers. However, all these publishers refused to provide them with a soft copy of their publications because of copyright issues. This made the mission of adjusting study materials the entire responsibility of SWVI (Officer 1 & 2).

Having the study materials in accessible formats was not the only barrier facing the SWVI in their attempts to access information. Many of the blind and legally blind students interviewed stated that they could not access the university website. The majority of these students did not have good computer skills. Even the students who have strong computer skills pointed out that the blackboard was not fully accessible for visually impaired users. The blackboard contained some images that were not readable by the students’ screen readers. This made it difficult for the SWVI to download the files they needed without assistance. Additionally, the university website changed occasionally. Some students struggled to use the new website because they had not undertaken any training related to accessing the new website through using their assistive technology (Students 2, 3, 6, 9 -12).

Accessing the library was another challenge that faced the SWVI. All the students interviewed maintained that they could not use the library independently. First, the library did not have a special room equipped with assistive technology for students with disabilities. Second, the library staff had not received any training in how to assist SWVI. Third, shelf and book labels and numbers are written in small fonts, which made it unreadable for those with low vision. Fourth, there were no special officers to assist SWVI to find and read prescribed references. Finally, there was no special department specialised in adjusting references and materials for students with print disabilities. Hence, the SWVI were not able to locate references they needed in accessible formats, and consequently, could not complete their assignments independently (Students 1-12).
6.4.7 Accessing the physical environment

Accessing the physical environment was one of the main mobility barriers faced by the SWVI at UAEU. The SWVI reported that they found the physical environment at UAEU inaccessible. For example, the male students pointed out that there are three male campuses at UAEU. As the students had on occasion, back-to-back lectures on different campuses, and even though they had use of the special needs students’ car to travel from one campus to another, they struggled to get to their classes on time. Additionally, as they were not familiar with the layout of all these campuses, they could not easily find their way around these different campuses (Students 2 & 3). A blind student commented:

I’m familiar with my campus. It’s small which makes it easier for me to move freely. However, I face a lot of difficulties in my mobility if I have any lectures in the other two men’s campuses. I get lost at these campuses. I don’t go there so often. (Student 3)

Moreover, in the academic year 2010/2011, the female students moved to a new campus at UAEU. Many SWVI reported that they did not find the new campus to be a safe environment for them. There were many obstacles between the buildings, such as iron columns, fountains, and stairs, all of which made the safe mobility of SWVI risky. Some SWVI also reported that the spaces between the university buildings are too wide, thus making it difficult for them to remember how to move from one building to another (Students 6-12). Other students pointed out that they could not walk freely inside some buildings. A blind student said:

The passages in some buildings are not spacious enough. It is difficult for me as a blind to walk there with a sighted guide. Even sighted students bump into each other when they walk through these passages. (Student 12)

As part of my researcher role, I spent four weeks at the new female campus at UAEU while conducting the interviews. As a vision impaired person, I experienced some issues in managing my own mobility on campus during this period. The new female campus contained a large open area, which made my mobility very difficult. Also, the buildings are quite a distance from each other thus making it was hard for me to easily find my way from one building to another building. Additionally, most of the buildings had few doors. Not all these doors had clear numbers. I found myself lost a few times trying to find the right exit. Similarly, I found the layout of the buildings a
bit complicated. I could not find my way to the lecturers’ offices or to the students’ classrooms without help. I needed to ask other students and staff for some assistance.

Another challenge facing the SWVI in accessing the physical environment was using stairs. The SWVI reported that they found stairs to be inaccessible at both male and female UAEU campuses. Many stairs do not have contrasting colours identifying the edge of each step. This made seeing the space between each step quite difficult for those with low vision (Students 6-10). Additionally, the spaces between the steps at some stairs are irregular, such as the stairs at the IT building on the female campus. Anyone climbing these stairs had to ascend a few stairs, then walk on flat ground for a few steps, continue ascending the stairs, then again walk a few steps to go up the remaining stairs. These stairs also are in uniform colour (Students 6, 7 & 10). Student 7 said that she changed her class because she was not comfortable using these stairs and there was no alternative way to get into the IT building. Some students also pointed out that not all the stairs at UAEU are provided with handrails, which made it challenging for them to access the stairs safely (Student 6, 9-12).

Not only were the stairs not fully accessible for the SWVI, neither were the elevators. Although the elevators on the new female campus were provided with Braille writing on the buttons, none of these elevators had a voice description facility. Some students who were Braille readers stated that it was difficult for them to know if they had arrived at the right floor even if they pressed the right button because they could not see the lettering on the top of the elevators. Additionally, most of the students at UAEU were Braille illiterate, so only a few students benefited from the Braille in the elevators (Students 6-12).

Another place that many SWVI found it difficult to manage their mobility was the food court. The food court is usually noisy, crowded and full of tables and chairs. Many SWVI stated that they felt uncomfortable moving inside the food court on their own because they could not see the name of the restaurants, read the menus or select food without help (Students 1-12).

The university campuses were not the only areas where the SWVI experienced some challenges in their mobility. Many female students reported that they were facing different mobility challenges at the new female hostel. Many female students stated that the new female hostel was not bright enough for them. This made their mobility risky at night, especially considering that there were fountains and stairs between the
buildings (Students 6-12). Moreover, some students found the lights in their rooms were not bright enough (Officer 3). Other students found the new hostel noisy, which adversely affected their studies (Students 6-12).

I lived on the new hostel myself for approximately four weeks in a ground floor room. This room was close to the SWVI rooms as well as the emergency door. When any student opened this door, the emergency bell started to ring loudly. This happened frequently when I was staying there, which I found it very distracting. Also, the rooms were very close to each other, close to the building’s gates, and also close to the elevator where other students usually walk and talk. For me personally, it was a very noisy environment. I could not use the screen reader on my laptop to read at night, nor get quiet sleep.

Another issue facing many SWVI was using the university transport. Many students could not catch the right bus because they could not read signs. The university addressed this issue by providing students with disabilities with a special car. When the new campus was established, the number of the female students with visual or physical impairments increased. Most of these students needed to use the special needs car to move from their hostels to the new campus. It was difficult for one car and one driver to serve a large number of students; especially as most of them had lectures between 8.00am and 10.30am. The Disability Centre tried to address this issue by encouraging the female SWVI to move to the new hostel, which is walking distance to the new campus. However, some female students preferred to stay at their old hostels. Also, the international female students’ hostel was not close to the new campus (Officer 2; Students 5, 6, 7 & 11).

These were the main challenges reported by the SWVI interviewed at UAEU during the academic year 2010/2011. In the next section, the experiences of the lectures and the university support staff who worked with these students provide further insights into the reality of provision offered for SWVI at this university.

6.5 Lecturers’ experiences with SWVI at UAEU

At UAEU, eight lecturers from different departments were interviewed during the academic year 2010/2011. Many stated that the lack of information about their students and the lack of training represented the most common obstacles for them in their work with SWVI (Lecturers 1-7).
All the lecturers pointed out that they had not received any information about their SWVI before they taught them. They had not been informed about the degree of their students’ impairments, the kinds of support the students would need, how they could adjust the materials for them, what kind of provision they would need in their classes, and how could they modify their explanations to suit their SWVI’s additional educational needs. Some lecturers stated that they needed a few weeks to understand the disability of their students and to identify the students’ capabilities. Moreover, some lecturers related that they found out about their students’ disability a few weeks after the beginning of the semester (Lecturers 1, 3, 5, 6 & 7).

Lecturer 1 stated:

Nobody informed me that I would have a student with vision impairment in my class. I noticed her impairment when she couldn’t do the class activities like the other students. I cannot remember whether she came to explain her impairment to me, or I discovered myself. (Lecturer 1)

Some lecturers stated that they needed to know about the additional needs of their students prior to the beginning of the semester. Such information would enable them to make the required adjustments in advance for their students and to learn more about their disability (Lecturers 3-7).

A lecturer at the UGRU stated:

As far as I know, no one has been told, “You will have a blind student this semester – are you prepared to teach them? (Lecturer 5)

Another lecturer in the UGRU department stated that even though she taught more than ten SWVI, she had never received any educational reports about her students' additional needs. She only was informed about their names and their classes. Thus, she spent the first lecture learning about these students. She asked them questions about their disability, how they studied, and how would they like to receive their materials (Lecturer 4).

A lecturer in the UGRU department stated that she had two students with different types of visual impairments. One student was legally blind, and the other was partially sighted. She provided the partially sighted student with large font materials. She also increased the font size for her on the computer for the class activities. This was enough to accommodate this student. However, she could not do the same with
the legally blind student. She did not know what kind of adjustment would be reasonable for her. This lecturer said:

One time I asked my blind student to read for me. I wanted her to follow my reading. She told me that she couldn’t read quickly because she needed to touch the letters when she reads Braille. She said that my reading was so fast for her. This didn’t cross my mind as a sighted person. (Lecturer 3)

Another issue facing many lecturers at UAEU in educating the SWVI was the lack of training. Many lecturers interviewed argued that they needed to learn how to cover the special needs for the SWVI in the classroom, and how to adjust the course materials. Some lecturers also wanted to understand how the assistive technology used by SWVI worked. None of the lecturers interviewed had received any training (Lecturers 3, 5, 7 & 8). Only two lecturers undertook Braille training. The first lecturer took this training overseas and the second at a special centre for students with disabilities in the UAE. Both lecturers pointed out that learning Braille was not enough to give them the knowledge they needed to teach their SWVI (Lecturers 4 & 5). One of these lecturers said:

The only training I got was reading and writing Braille. I only learnt the alphabet. To become an English teacher for visually impaired students, I required a lot more training, such as learning what is difference in teaching blind students. I pick up that from my own experience. (Lecturer 5)

Moreover, explaining images, photos and charts to the SWVI presented another challenge to many lecturers at UAEU. Some subjects such as Mathematics, Computers, English, and Geography required the use of images to clarify some information in the classroom. Some lecturers tried to avoid using images in their lectures with the SWVI, or alternatively they tried to explain things orally to these students (Lecturers 2-7).

A Mathematics lecturer said:

I tried to not give my visually impaired students any Mathematics lessons based on shapes. I taught them statistics. I taught them only the first-degree equations. Of course Mathematics requires using a lot of shapes, but if we want to teach visually impaired students how to understand shapes, we should start with them from an early age. (Lecturer 7)
Some lecturers claimed that the task of explaining shapes to blind students was even more difficult than explaining shapes to a partially sighted student. A computer teacher said that he was not able to teach blind students because he did not know how to explain computer related information to a student who has no vision at all (Lecturer 6). Many SWVI stated that their lecturers do not further explain images they use in their regular classes. As a result, they miss critical information in their lectures (Students 2-7, 12).

Moreover, some lecturers argued that they had no clear idea how much their SWVI could see, whether they could identify colours or not, whether they had any visual memory or not. Such information was significant in order to adequately explain shapes and images to these students. Some lecturers felt sensitive about asking their students about their sight level as they thought that this question might make their SWVI feel uncomfortable (Lecturers 1, 3, 6 & 7).

Also, some lecturers were aware that words they used may be perceived as hurtful or inconsiderate by their SWVI. One lecturer said that as he had two blind students in his class, he avoided using the word “see”. A few weeks later, he found out that his blind students used this word in their daily conversation just like sighted people, and then he began to use this word without any further sensitivity (Lecturer 7). Another lecturer pointed out that he wanted to treat his SWVI like sighted students, but he did not know what might hurt their feelings and what would not, or how could he encourage them without being too nice, or too hard (Lecturer 6).

The lecturers who taught in one-to-one UGRU classes faced other specific challenges. Some lecturers argued that they needed to put much more effort into these classes compared to those exerted in their regular classes. In their one-to-one classes, they talked more than they usually did in regular classes. Additionally, in the regular classes the lecturers asked the students to carry out different types of activities that required further explanation for their SWVI. They also took extra time to adjust the course materials for these students (Lecturers 3-5 & 7). A lecturer at the UGRU department stated:

In the visually impaired classes, I talk more than I listen. That’s normal because I usually have one or two students. Even if they are very active in the class, they would not talk for more than 25% of the total time, and I have to talk for rest of the time. (Lecturer 4)
Another lecturer said:

Finishing the objective of the lecture on time is the biggest challenge for me in one-to-one classes. I take more time to explain things to the SWVI in comparison to sighted students. I cannot always finish the lessons on time. (Lecturer 6)

Another issue facing some lecturers was preparing course materials for their SWVI. The lecturers at the UGRU department stated that they have to adjust the materials themselves. Preparing large print materials for partially sighted students was not an issue for these lecturers. However, most of the lecturers did not have enough experience or time to adjust study materials for blind students (Lecturers 3, 6 & 7). An English lecturer reported:

Adjusting blind students materials is not high-pressure work, but it is very time consuming and very tedious. For example, for every vocabulary or grammar exercise, I have to copy the exercise, paste it and then I have to go through each sentence one by one and reformat it. (Lecturer 5)

Furthermore, the term ‘visual impairment’ was not clearly understood by some UAEU academic staff. Many educators could not differentiate between legally blind and partially sighted students, or even the legally blind and the completely blind. One of the UGRU department lecturers pointed out that he had a legally blind student who was treated as partially sighted in her first year. She was provided with large-font materials that she could not read, and as a result, she failed in her English subject a number of times (Lecturer 5).

Many academic staff interviewed maintained that they did not receive enough lecturing support from their university. Some had no idea about the existence of the Disability Centre. Even those with good connections to the Centre did not receive enough support because its officers were not specialised in the area of visual impairment provision. Therefore, providing the SWVI with reasonable accommodation became the responsibility of the students themselves and their lecturers. In some cases, the lecturers identified the special needs of their students and found out how they could support them. The biggest obstacle these lecturers faced was that these students had individual needs. What could work for one SWVI might not work for another (Lecturers 3-5). An English lecturer stated:
I was working with blind students who work on a laptop, and my colleague was working with a blind student who couldn’t do any writing. So an answer for me didn’t help my colleague at all and an answer from her didn’t help me as well. (Lecturer 5)

The academic staff experiences indicated that UAEU’s Disability Centre did not have the capacity to support lecturers to accommodate their SWVI. The staff working at the Disability Centre were themselves struggling to provide the SWVI with the reasonable accommodation they required. The next section will further highlight this topic in more detail.

6.6 Experiences of staff at the disability centre

The Disability Centre at UAEU was established in 2010, one year before conducting this research. Although UAEU had started supporting SWVI in the 1990s, provision for these students was suspended a few times until the Disability Centre was founded (Officers 1 & 2). Nevertheless, this centre faced a few challenges in terms of supporting students with disabilities including serious lacking in experienced officers, funding, and communication with the UAEU educators. These issues created a gap between the services that according to the UAEU policy should be offered to students with disabilities, and what was actually offered through the Disability Centre to these students.

The lack of experienced officers was one of the most serious challenges facing the Disability Centre at UAEU in accommodating the SWVI. In the academic year 2010/2011, there were three officers working at the Disability Centre at UAEU campuses: the head of the Centre, an administrative assistant and an officer at the new female hostel. A few volunteers also offered their assistance. Although most of the students with disabilities at UAEU were vision impaired, none of these officers or even the volunteers had any experience in the field of visual impairment, or had taken any training to support SWVI (Officers 2 & 3). Most of the SWVI at UAEU believed that the centre was not yet capable of accommodating their special needs (Students 2-12). A SWVI stated:

The officers at the disability centre have no clear idea how to use the visually impaired equipment. For example, they have a Braille printer, but most of them don’t know how to use it. (Student 3)

Another student with low vision stated:
The officers at the disability centre think that they can cover all my special needs by providing me with A3 materials. They don’t understand that my additional needs are more than this. (Student 10)

A lecturer observed that:

The officers at the disability centre are not specialised in the field of visual impairment. They are still learning how to support these students. (Lecturer 5)

The staff working at the Disability Centre did not undertake any training in the accommodation of SWVI. An officer stated that she had not received any training in or even an explanation about how to support students with disabilities. She had no idea about how to use the assistive technology, how to adjust study materials, or how to assist SWVI with their mobility. Although she had conducted some online research to learn more about these issues, she thought that was not enough (Officer 3).

Not only had the officers not received any training in how to support students with disabilities, neither had the volunteers. A blind student pointed out that the Disability Centre arranged for a volunteer to assist her with her studies and mobility. She did not find this volunteer helpful because she was not patient and did not know how to help her (Student 12).

Another challenge facing the Disability Centre was a lack of financial resources. There was no special budget for students with disabilities in the UAEU financial plan until the time of conducting this research. UAEU only covered the monthly salaries and everyday work expenses for Disability Centre officers. The Disability Centre relied on donations from some private individuals and organisations in the UAE to establish two assistive technology laboratories. The first laboratory was located at the largest male campus, and the second at the female campus. All the laboratories’ software and the equipment expenses were covered by these donations. There was no budget to hire extra officers to work in these assistive technology laboratories (Officers 1 & 2).

Furthermore, many of the educators at UAEU had no idea about the Disability Centre as there was no real contact between the Centre and faculty staff. Many SWVI stated that their lecturers had not received any information about their
disability, and many of these lecturers had no idea about the Centre (Lecturers 1, 2, 5 & 8; Students 2-7, 9 & 12).

Another challenge facing the Disability Centre was a lack of information about new students with disabilities. An officer at UAEU pointed out that there was no cooperation between different Ministries in the UAE in terms of supporting students with disabilities. The Ministry of Education does not provide universities with any information about the additional needs of these students, or explain the educational plan that was used during their schooling. In practice, the Ministry of Education did not have any real contact with universities in the UAE (Officer 1 & 2). An officer at UAEU commented:

We need to know: the educational achievements of students with disabilities, their numbers, their educational difficulties, whether or not they have multiple disabilities, and how they coped with their study in their schools prior to coming to university. This information can help us to identify the special services these students need during their study with us. (Officer 1)

To summarise, the accommodation of SWVI at UAEU was a new project when conducting this research. As a consequence, in these early days the SWVI were facing different types of challenges in accessing information, accessing the physical environment, and in receiving the accommodation needed for their classes, exams and course materials. Furthermore, the academic staff also struggled in obtaining the support they needed to accommodate these students. Moreover, the support staff at the Disability Centre did not have the required experience or other resources to provide these students with reasonable accommodation.

6.7 Chapter summary

The United Arab Emirates University was the first university offering support to SWVI in the UAE in the 1990s. Nevertheless, the experiences of the SWVI studying at this university are not different to the experiences of the SWVI who were studying at ZU and UOS.

The SWVI faced different challenges at UAEU. Some of these challenges are similar to those barriers that were identified in the literature review chapter, including: limitation in choosing the study area, challenges in studying some subjects,
difficulties in accessing information, barriers in accessing the physical environment, and cultural and attitudinal barriers at UAEU community. However, some of the difficulties experienced by the SWVI were not clearly identified in the literature including: lack of required training at the school level such as Braille, mobility and orientation, computers, life and social development skills. Additionally, some SWVI faced personal challenges, and others found it difficult to cope with the university life in the first year of their studies.

Moreover, the lecturers at UAEU who participated in this case study experienced some difficulties in teaching the SWVI. These difficulties included: lack of information about the SWVI, lack of experience in accommodating SWVI, lack of required training in teaching SWVI, difficulties in adjusting images, and lack of support offered by their university. Most of these challenges are similar to those experienced at ZU and those explained in the literature review chapter.

Although the UAEU established a Disability Centre in 2010, the support staff working at this centre faced different types of barriers in accommodating the SWVI including: lack of staff working at this centre, lack of training offered to the support staff, lack of required experience to accommodate the SWVI and to assist academic staff to meet their teaching responsibilities towards these students, lack of financial support from the university administration, and finally, that there was no clear guidance to assist the disability centre in accommodating the SWVI.

The centre did have some successes: the establishment of two assistive technology laboratories, the provision of A3 materials for partially sighted students, the provision of assistive software and personal equipment, and improved arrangements for special transport for the SWVI. These successes however, did not go far enough to meet the reality of the special needs of the SWVI. The SWVI experienced different types of barriers in accessing the physical, educational and social environments at UAEU.

There was a gap between the UAEU educational policy for students with disabilities, and the services provided by the Disability Centre. According to UAEU policy, SWVI should be provided with accessible materials, equal opportunities to readily accessible information, reasonable accommodation for exams, an accessible physical environment, and any required training. The SWVI interview responses suggested that these students faced different types of challenges in accessing the services
mentioned in the UAEU disability policy. As a consequence, disability services at UAEU did not meet the special needs of the SWVI.
Chapter Seven
The University of Sharjah case study

7.1 Introduction

The University of Sharjah (UOS) represents a different case study in comparison to UAEU and ZU. During the time of conducting this research, UOS did not have a disability department or a policy for students with disabilities. Furthermore, there were no services offered to the students with disabilities listed on the university’s website (UOS, 2012b). As such, this case study contrasts with the UAEU and ZU case studies, where there was a disability department at each university.

Eleven SWVI took part in this case study (Students 14-24, see table 1, p. 46). Six of these participants were male and five were female, ranging in age from 21 and 25 years. Five students were legally blind, five blind, and one student was partially sighted. Five students were from the UAE, three from Sudan, two from Palestine, and one student from Iraq (Students 14-24).

Most of these students were studying at the Mass Communication faculty. Five students were studying public relations, two were studying journalism, one was studying English literature, one was studying Islamic law (Sharia), one student was studying Arabic literature, and one student was studying law. Two students were doing Master’s degrees and nine students completing undergraduate degrees (Students 14-24).

Furthermore, seven lecturers (five males and two females) were interviewed for this case study (Lecturers 12-18, see table 2, p. 46). Two were from the Mass Communication faculty, two from the Law faculty, and one from each of the departments of Arabic Literature, English Literature and History. Four lecturers had individually more than 14 years of experience teaching in higher education. Two had more than 30 years of experience and one lecturer had only three years of experience. Two of the lecturers were from Egypt; another two were from Algeria, with one each from Iraq, Morocco, and the UAE (Lecturers 12-18).

Some of these lecturers had taught some SWVI in their home countries before joining teaching staff at UOS (Lecturers 14-16 & 18). Other lecturers had not had any experience with SWVI before joining UOS (Lecturers 12, 13 & 17). Three
lecturers taught two SWVI at UOS (Lecturers 12, 16, 18). One lecturer taught three SWVI (Lecturer 17), and another lecturer taught one SWVI (Lecturer 14). Finally, two lecturers taught more than four SWVI (Lecturers 13 & 15).

Two university staff officers were also interviewed; one male and one female (Officers 6 & 7, see table 3, p. 48). One was working at the Students’ Affairs Department, and the second at the university administration’s head office. The two officers were from Egypt, with no work experience with SWVI (Officers 6 & 7).

All the students, six of the seven academic staff, and one university staff member were interviewed in Arabic. The seventh lecturer and the other staff member were interviewed in English. To summarise, 18 participants of 20 were interviewed in Arabic. Their interviews were translated from Arabic into English by the researcher.

In addition to the interviews, two observations with two blind students were conducted in the students’ classrooms over one study day. These two students’ mobility and interactions with sighted students and other SWVI were also observed. These observations provided this case study with further insights into the SWVI experiences, challenges faced in their mobility on campus, cultural barriers, their relationships with some academic staff and other students.

7.2 Background of the university

The University of Sharjah (UOS) is a private university located in the city of Sharjah. It was founded in 1997 by the president of Sharjah, His Highness Sheikh Sultan bin Mohamed Al-Qasimi. UOS aims to cover the Emirate of Sharjah’s educational and cultural needs within its Islamic values and tradition. It has a vision to become a leading academic institution in the Middle East and to be recognised internationally (UOS, 2012a).

The University of Sharjah offers undergraduate and postgraduate studies in many disciplines: humanities, liberal arts and culture, social sciences, communication, engineering and architecture, business administration, applied sciences, Islamic law, common law, fine art and design, medicine, dentistry, pharmacy and health sciences. Moreover, the university offers a large number of programs through its Community College that prepares students for careers in the community services and technical professions (UOS, 2010).
The University of Sharjah has two main campuses: a male campus and a female campus, both located in Sharjah University city. These campuses are close to the Sharjah International Airport, and fifteen kilometers away from the city centre of Sharjah. In addition, UOS has built a number of campuses through the Emirate of Sharjah to provide education and training programs to different communities in the city of Sharjah including the communities of Khor Fakkan, Kalba, Meleha, and Dibba Al-Hisn (UOS, 2010; UOS, 2012a).

7.3 Students with vision impairments experiences at UOS

In the academic year 2010/2011, UOS had a larger number of SWVI compared to UAEU and ZU. In this academic year, UOS had at least 16 SWVI. In addition, there were a number of students with different types of disabilities such as hearing impairment, learning difficulties, and physical impairment. However, UOS did not have a disability department that advocated for or supported the special needs of students with disabilities (Officer 6). As a result, the SWVI at this university were facing significant challenges in their studies, as further explained below.

7.3.1 Required training

The SWVI who were interviewed at UOS were asked about their skills in Braille, mobility and orientation and using the assistive technology.

Of the eleven participating students, five were blind, and five legally blind. None of these students could use their sight to read, and they needed to undertake Braille training at school. Nine received Braille training. Of these, seven undertook this training at a special school for students with disabilities, and two students received Braille training at the Emirates Association of the Visually Impaired. Five of these nine students were able to read and write Braille fluently. Most used Braille extensively in their studies, and also used Braille note taking devices (Student 14, 16, 17, 19-24). Two of the nine students were not fluent Braille readers. One student stated that he was integrated into a mainstream school when he was in Grade 4 and had not practised Braille enough since that time (Student 19). Another student stated that her Braille training was too short and not substantial enough for her to learn everything about Braille (Student 24).

Moreover, eight of the 11 students undertook mobility training at either Tamkeen or the Emirates Association of the Visually Impaired. Nevertheless, only five SWVI of
this group were able to walk independently on campus using a white cane (Students 14-17, 20-23). Two students stated that they did not practise mobility training after they finished their training, and had forgotten how to move using the white cane (Students 14 & 23). One student pointed out that he did not use the white cane to assist his mobility after finishing his training, as he received enough assistance from his friends and family members (Student 17). As a result, some SWVI were not independent in their mobility. Two blind students hired someone to assist them with their mobility. The first student had a maid who was with her all the time when she was on campus, and the second student depended on his driver to move around (Students 23 & 24).

The third important type of training for the SWVI was instruction in the use of assistive technology such as the screen readers, Braille note takers, and magnifiers. All the SWVI interviewed stated that they received computer training at Tamkeen Centre. However, only four students of 11 were able to use computers independently (Students 14-24). The students who could not use computers argued that their training was too short, and they did not learn all the computer skills they needed. Other students stated that they did not practice the skills they acquired in training because they did not have a computer at the time of their training and they had forgotten what they had learned (Students 14, 16, 18-20, 22 & 24). For example, one student said:

My computer training was for six weeks. I only learnt the basic computer skills, such as: opening a new file, using Microsoft Word, and doing some online research. I didn’t learn how to use many other computer programs such as PowerPoint. (Student 16)

The students who did not have very good computer skills but had good Braille skills used some Braille electronic devices in their studies, such as Braille Sense and BrailleNote. These students found these Braille devices very useful for their studies because they could use them to take lecture notes, access Word documents in Braille, and also to type their materials in Braille and then save this information to these devices (Students 14, 16, 20, 22 & 23). Nonetheless, the SWVI who did not know how to use computers or how to read Braille, needed strong support from friends and family members to cover their study needs and to complete assignments (Students 18, 19, 24).
7.3.2 Access to information

Students with vision impairments need to access information for their studies from a number of different sources including course materials, the university website and from the library. All the students interviewed related different types of challenges in their attempts to access information from these different sources (Students 14-24).

The SWVI pointed out that they required access to the course materials in different formats. For example, the students who were able to read Braille fluently preferred to have their materials in Braille. These students also stated that if they received their materials in Word document format, they could access them easily using their Braille devices (Students 14, 16, 17, 20, 22 & 23). In contrast, three students stated that they needed their materials in audio format because they could not easily use computers, or read Braille (Students 18, 19 & 24). Finally, two students needed their course materials in electronic text format because they relied on their computers to study (Students 15 & 21).

The SWVI interviewed stated that as they did not receive many of their course materials in the formats required, they relied on assistance from family members or friends to access these materials. Many students articulated that not all the course materials were available on the university’s online Blackboard system. Some files on Blackboard were offered in PDF format, which was inaccessible for them to read. In this case, although the students related that they usually asked their lecturers to provide them with their course materials in Word format, their lecturers did not always have these materials available (Students 14-24).

The SWVI at UOS had to develop ways to address the issue of inadequate access to the materials they needed. For example, Student 14 stated:

I tape the lectures then I write them in Braille using my Braille Note taker. This is very time-consuming. Also, some lecturers do not allow me to tape their lectures. In these cases, my mother tapes the course materials for me, and then I type it up in Braille. (Student 14)

Student 22 stated:

When I cannot get the materials in Word format from my lecturers, I pay someone to type them for me in Word format, which is quite expensive. (Student 22)
Other students said that they spent their weekends writing their course materials with their family members’ assistance (Students 16, 20 & 23). For example, a blind student stated:

I spend all my weekends writing my study materials. Usually I start on Friday at 8am and I finish at 10pm. Then I do the same thing on Saturday. I only take very short breaks to eat and pray. (Student 20)

Other students relied on developing other strategies for accessing materials that did not rely on others assistance. For example, Student 18, who did not have good computer skills and could not read Braille, commented that the only way he could study was by having his study materials in audio format; however, as he could not receive his materials in this format, he would audio tape the lectures and then summarise these recording his own voice. He then used these summaries to study for the final exams. Nevertheless, while this assisted with some aspects of his study, he faced further challenges with accessing course materials that needed to be read before his exams. As a way of overcoming this challenge, he used to study with some of his classmates before the final exams (Student 18).

Another source of information the SWVI needed to use was the university website. The SWVI needed to access some course materials, and submit some assignments through Blackboard. They also needed to check their university email regularly, enrol online, and check exam results. All the SWVI who were able to use computers stated that the university website was not completely accessible by their screen readers. These students recalled that they were not able to access their profile, university email or their exam results. Some SWVI also stated that not all Blackboard files were readable by their screen readers (Students 15-17, 19-21).

Additionally, some students stated that they had to submit some of their assignments to Blackboard; a requirement they could not meet by themselves, as Blackboard could not be read by their screen readers (Students 17, 20, 24).

Some SWVI also reported that they could not access the university website as they needed training in how to navigate the website using their screen readers; training not offered at their university (Students 17, 19, 23).

Other students pointed out that they struggled to access other Internet websites needed for their studies (Students 16, 17, 20, 21). A legally blind student said:
My lecturer asked us to read a specific article from a particular newspaper and write a review about it. I couldn’t access the newspaper, because the website was not readable for my screen reader. I will need to ask a sighted person to help. What benefit will I have as a student if I do not do the assignments myself? (Student 15)

A significant source of information at any university is the library. All the SWVI interviewed stated that they faced different types of difficulties in the library, reporting that they could not always get enough assistance from library staff to search, find and read the references. Although many students found the librarians very helpful, the librarians who helped these students did so voluntarily and not because it was part of their job. Thus, many SWVI felt uncomfortable asking them for any assistance (Students 15, 17, 18, 20, 22). A blind student stated:

I asked a librarian to help me to find some references one time. She tried to do her best, but there were many students who wanted to borrow some books and she had to stay on the desk. (Student 22)

Accessing references was another big challenge faced by the SWVI. The SWVI interviewed stated that the library does not provide any adjustment for the references to students with print disabilities. Consequently, they could not receive the references they needed in accessible formats and could not read them independently (Student 14, 16, 18). Three SWVI stated that they paid someone to assist them with completing their assignments (Students 18, 22 & 23). Two of these SWVI were Master’s students and they needed constant assistance to access the references for their studies. These students stated that they were completing their Masters degree in the Arabic language, and that all the references they needed were only available in hard copy format. Therefore, they needed someone to read these references for them (Students 18 & 22).

Finally, some students argued that they felt uncomfortable studying in the library. The library did not have a special room equipped with assistive technology for the SWVI where they could study with their friends (Students 17 & 18). A blind student said:

When I need to go to the library with my friend who needs to read aloud for me, we cannot find a suitable place, because we are not allowed to speak in the library. (Student 18)
Accessing information was not the only accessibility obstacle the SWVI were facing at UOS. These students also reported different types of challenges accessing the physical environment.

### 7.3.3 Access to the physical environment

The SWVI interviewed found the physical environment at UOS to be not fully safe and accessible. Both the male and the female students stated that they faced a number of difficulties moving from one building to another at their campus. Some students related that the space between the university’s buildings was too wide, making it difficult for them to remember how to move independently. Other students argued that it was unsafe for them to move between the university buildings because they needed to cross a number of small streets inside their campus and there were no pedestrian crossings with traffic lights. Also, some female students stated that construction work in the main thoroughfare between three groups of buildings at their campus made it hard for them to move freely and safely between the university’s buildings (Students 14-24).

A legally blind student, said:

> Although I have some useful sight, it is difficult for me to move from one building to another… Some students drive their cars to move between the university’s buildings, and there is no pedestrian crossing. Moreover, there are many iron pillars between the buildings, stairs, trees, rails and construction work. I don’t feel safe to walk alone between the buildings. (Student 14)

Another student said:

> Some of my classes are in building M6, and others in building M1. These two buildings are far away from each other. I learnt how to move from M3 to M4, but I don’t know how to move from M6 to M1. I have to cross a passage that contains trees and some construction work. I usually wait until I see someone come to cross, and I walk beside them. (Student 19)

A blind student reported that during the enrolment process, he tried to choose the classes that were located in same building each day. Furthermore, his sighted classmates try to arrange their lecture times to be at the same time as his lectures to assist him in his mobility (Student 17).
Although the SWVI struggled to move between the university’s buildings, most were able to find their classes inside these buildings. Some students noted that classrooms were organised in a very systematic order in each building, which made it easier for them to find their own classes (Student 16, 17, 20, 22). Some students also pointed out that at the beginning of each semester their sighted classmates helped them to learn how to get to their new classes (Students 14, 17, 22). A blind student stated:

I usually ask my friends to show me the way to my classes by the beginning of each semester. I use landmarks such as elevators, coffee machine, and stairs to identify my classes. I also count the classes to know my class. (Student 22)

A blind student used another technique to identify his classes:

When I have a new class, I try to remember the direction to the classroom inside the building. I try to find out if it is located on the right or left side of the building, or in the middle. Using this technique, I can identify my classes rooms locations. (Student 19)

Furthermore, some students pointed out that they faced some challenges finding their lecturers’ offices. A blind student stated that her lecturers’ offices were not organised in a systematic order, with some located in corners and others in different passageways. As it was hard for her to find the right office, she always asked the secretary of her faculty to guide her (Student 20).

Another campus location that presented mobility challenges for the SWVI was the food court. All the SWVI interviewed recalled that they felt uncomfortable moving in the noisy and crowded food court. In addition, the food court area contained many tables and chairs, which made their mobility more difficult. Additionally, some students stated that they were not able to identify the names of the restaurants in the food court, or choose the food they wanted without help (Students 14-24). Others noted that they only went to the food court with their sighted friends (Students 17 & 22). Some avoided buying anything from the food court even when they felt hungry, because the challenges identified seemed insurmountable (Students 15, 17, 19, 23, 24). A blind student stated:

The cafeteria is far away from my classes. I cannot go there independently. I have to cross a small road to get there. Cars usually use this road. It’s unsafe for me to cross it without assistance. (Student 17)
Another challenge facing some SWVI was adjusting to unexpected changes to the physical environment. These students needed a long time to orientate themselves to the university campus and it was difficult for many of them to deal with any changes to this environment. In the academic year 2010/2011, the academic staff offices at the Mass Communication faculty, along with the Registration and Admission Department, were moved to another building. The blind students found it difficult to get to the new locations easily. Two blind students stated that they avoided going to these new buildings because they did not know how to get there independently. Also, the new buildings were not close to their classes (Students 16, 20).

The need to access stairs presented another serious struggle for many SWVI. The majority of the SWVI found the stairs inaccessible at UOS. Most staircases were a single colour so individual steps were difficult to identify. Furthermore, some stairs did not have handrails, which made it difficult for the partially sighted students and the legally blind students to use (Students 15, 18, 19, 21, 23, 24). For example, a legally blind student said:

I cannot distinguish between the stairs and the floor, or even the space between each stair. This makes me uncomfortable using the stairs at my university. (Student 19)

Another student commented:

The problem I face when I use the stairs is that some students may sit on the stairs and they don’t give way to me when I go up or down. (Student 24)

Moreover, all of the SWVI interviewed struggled to access the elevators. Most stated that the elevators at their campuses did not have any voice facility or Braille writing on the buttons. Thus, it was hard to work out which button was associated with the floor they needed. Most of the students stated that they did not know if they reached the right floor when they used the elevators on their own. However, some students argued that as the buildings at their university contained only two or three floors, it was easier for them to use the elevators (Students 14-24). Additionally, one student stated that he could not identify the location of the elevators because of their indistinguishable colour:

The colour of the elevators is very light, and the colour of the walls is very light also. I cannot distinguish the location of the elevators. I have difficulties identifying colours that are close to each other. (Student 15)
Another student commented:

When I have lectures in a new building, I ask my sighted friends about the numbers of the buttons in the elevators, and I try to memorise them. When I cannot do that, I just press all the buttons and know my direction by counting how many times the elevator stops. (Student 16)

Arranging ways to meet mobility needs on campus was not the only challenge that faced the SWVI. Some of these students faced serious struggles arranging their transport from their home accommodation to their campuses. This challenge was further exacerbated by the fact that there is no public transport system in the UAE. Thus, all the SWVI could not travel from their accommodation to UOS independently. Moreover, as UOS was not close to the city it was hard to find a taxi in this area.

Some SWVI had a private driver and were able to more easily manage their transport needs (Students 17, 23 & 24). Other students received some help from their family members to travel from their accommodation to UOS (Students 14, 16, 20, 21). However, some SWVI could not afford to hire a private driver and did not live with their families (Students 15, 17 & 18). One of these students managed his transport by traveling with his friends who lived in his home city (Student 19). Three other students travelled by taxi. These students reported that they could not always catch a taxi to get to their classes on time. In addition, they stated that taxi fares were expensive for them and there was no special rate for people with disabilities in the UAE (Student 18, 15 & 22). Student 18 said:

I asked a taxi driver to pick me up from my home and drive me to my university at a specific time, but he couldn’t always come on time. (Student 18)

Student 22 stated:

I struggled to arrange my transport in the first year. Some of my family members sometimes gave me a lift, but they couldn’t drive me to my university every day. I missed some of my classes a few times. In my second year, I started using a cab. However, I’m not able to afford paying for a cab every day. (Student 22)
7.3.4 Selecting a study area

The SWVI interviewed were asked about their reasons for choosing their majors. Only four students of 11 studied the majors they planned to study before they joined UOS (Students 18, 20, 21, 23). Five of the 11 students interviewed chose to study Public Relations, primarily because this major did not require a result in the IELTS exam and did not contain any mathematics subjects. In contrast, three students could not get into the majors they wanted to study (Students 15, 16 & 17).

One of these three students stated that he wanted to study Business Administration; however, he knew that he would not be provided with enough support to study this major. If he studied business he would need to study a few mathematics subjects, which would need to be modified for SWVI. In addition, much lesson content within the Business faculty included charts and graphs. This student did not think that the academic staff at UOS had the required experience to modify this type of content for SWVI. Furthermore, if he wanted to study at the Business faculty, he would have to achieve specific scores in the IELTS, or in the TOEFL exams. He believed that these exams were not completely accessible for SWVI. For all these reasons, this student chose to study Public Relations instead of Business (Student 15).

Two other blind students pointed out that they wanted to study Radio and Television Broadcasting. However, they could not get into this major because most of the academic staff at the Mass Communication faculty believed that SWVI were not capable of studying this major. As a result, these two students chose to study journalism. Nonetheless, some educators at UOS thought these students would not be capable of studying journalism (Students 16 & 17). Student 17 commented:

Some academic staff at the faculty of Mass Communication tried to convince me to study public relations. They told me that I’m not capable of doing some journalist work, such as reading, writing, searching for information and covering news, but I was so insistent to study Journalism.  
(Student 17)

In summary, all the students interviewed avoided choosing majors that would require studying IT, mathematics and science subjects. The students believed that they would not receive enough support to study these subjects (Students 14-24). In spite of that, some of the majors that the SWVI were studying in 2011 required studying some of the previously mentioned subjects.
7.3.5 Challenges in studying certain subjects

The SWVI interviewed reported that their majors contained some compulsory subjects that were difficult for them to master without some adjustment. These subjects included IT, statistics, research methods and English. Most of the students found the computer and the research methods subjects the most difficult subjects for them to study.

The students stated that according to the UOS’s rules, they had the right to substitute, or replace some subjects that focused heavily on the use of visual information, such as IT subjects (Students 14-24). Many students did not study any computer units, as they had replaced these with other subjects (Students 14, 16, 17, 20-23). Additionally, one blind student stated that the university replaced a statistics unit with another more accessible unit (Student 22). Two blind students who were studying journalism pointed out that their faculty replaced a number of units, including visual communication, photography, and IT that could not be modified for the SWVI, even though these subjects were normally taken as compulsory units in their major. However, one of these two blind students stated that he studied a print media unit, while the second student replaced this with another subject (Students 16 & 17).

Moreover, all the students interviewed undertook computer training at Tamkeen, and most needed to receive further computer training. Many of the students did not take the risk to study any computer unit at UOS because they believed that these units were inaccessible to them (Students 14, 16, 17, 19-23). Only one student decided to study a computer course. This student found the content of the subject very easy. However, he could not follow up with his lecturer in the computer laboratory because there was no accessible computer with a screen reader. Although he brought his laptop to the computer class, there were no available desks for him to put his laptop on. He asked his lecturer to download the screen reader software onto a computer in the laboratory but his lecturer could not do that because he needed to get special consent from the university administration to download non-standard programs onto computers at UOS. Despite all these challenges, this student achieved a high score in his midterm exam. He was provided with a test-reader, who he instructed to input commands into the computer (Student 15).
Furthermore, two students faced challenges studying the research methods subject (Students 14 & 17). The first student found this unit difficult because he could not receive any library assistance or have the references he needed made available in an accessible format (Student 17). The second student stated that he found this subject difficult because he was not able to format his assignments on his own. For example, if there were any spelling mistakes in his writing, he needed someone to check his writing before he submitted assignments to his lecturers. This student commented:

I did not realise, even after submitting my assignments, that I had some issues in the format of them. A few days ago, I converted an assignment from Braille to normal print. My sister told me that I had some errors in my writing and the format of my assignment. (Student 14)

Finally, some SWVI faced some challenges studying the compulsory English units. These students found English writing the most difficult part in studying English. Most of these students relied on their hearing to study English at school and did not learn how to spell English correctly (Students 17, 21-23). One student stated that she needed to pass the IELTS exam with quite a high score of 5 to get into her desired business major. She attempted the exam nine times but could not get the required score in the writing section. Thus she decided to study another major (Student 24).

7.3.6 Challenges in classrooms

One of the main challenges that faced many SWVI at UOS during the academic year 2010/2011 was taking lecture notes. Six of the 11 students stated that they were facing serious struggles taking lecture notes (Students 14, 15, 19, 21, 23, 24). Some of these students were Braille illiterate, or Braille semi-literate, and the only way for them to take lecture notes was by recording their lectures. These students stated that not all the lecturers at UOS allowed the SWVI to record their lectures. Also, some of these students were fluent Braille readers but not all of them had Braille note takers. These devices were unaffordable for many students. Most of the students who had Braille note takers, such as Braille Sense and BrailleNote, received them as donations (Students 14, 16, 17, 19-23). In addition, not all the students who had Braille note takers could use them to take lecture notes because not all of them were able to type Braille quickly enough to take all the notes they needed (Students 17, 23). Student 20 stated:
It is difficult for me to write the notes when the lecturer reads them or explains them quickly. When this happens, I ask the lecturer to read the information again, so I can have another chance to write it on my Braille device. (Student 20)

A legally blind student who completely relied on his computer to study said:

I don’t take any notes during my lectures. I thought to bring my laptop to my classes to take some notes, but I would never be able to write all the notes I need, because I’m not quick enough to do that. (Student 15)

One of the blind students stated that taking lecture notes was one of the most difficult challenges he faced in his studies. He did not receive his course materials in an accessible format. Thus, he used to study using lecture notes lent by his friends. He was completely reliant on Braille to study. Although he had a Braille note taker, he could not use it to take lecture notes because he was not quick at typing in Braille. He used to ask his classmates to lend him their lecture notes and then he tried to find someone at home to dictate these notes to him. This was a very time consuming task for him. However, not all of his classmates were willing to lend him their lecture notes. He also tried to record his lectures and write them in Braille on his own. He only did that once as this adjustment method was also very time consuming (Student 23).

Students who had some useful sight, and were able to read large fonts, also faced the same type of difficulties in taking lecture notes. One of these students stated:

I usually ask my classmates to lend me their notebooks. Some students give me their notes, but other students refuse. I use my electronic magnifier to read their notes. I cannot read all their handwriting. It is difficult for me to read some handwriting even if I enlarge the picture. (Student 24)

Moreover, a few students pointed out that they preferred to sit in the first row in their classes, to be close to the lecturer and have a better opportunity to hear the lecture and record it or take notes, but they could not always find a chair in the first row (Students 16, 20, 21 & 24).

Another challenge that faced some SWVI in their classes was the need to understand images, such as charts, shapes, and tables, the lecturer used in lectures and course materials to convey some information. Most of the students stated that their lecturers tried to explain these images to them but not all of them were able to understand,
even after their lecturers’ explanations (Students 15, 17, 19). Also, a legally blind student stated that his lecturers usually forgot to provide him with any further explanation for images they used in their classes, because his eyes look normal. Thus, it was difficult for his lecturers to remember his impairment, even after he explained this to them at the beginning of each semester (Student 15).

### 7.3.7 Exam modification and accommodation

During the academic year 2010/2011, UOS did not have any policy for students with disabilities. Consequently, there were no special rules for exams modification and accommodation for students with disabilities (Officer 6; Student 18). A SWVI commented:

> At The University of Sharjah, each faculty and even lecturer has different rules for the SWIV's exams. If any of my lecturers ask me to do an exam without additional time, I have to do it. If any lecturer gives me additional time, it would be out of their own generosity. (Student 18)

Through the interviews that were conducted with the 11 SWVI, the students pointed out that they needed special provision for their exams including a test-writer, extra time, a separate quiet room, accessible exam materials, and special adjustment for some questions. All the students interviewed stated that they were not provided with sufficient support for their exams, which adversely affected their exam results in some cases (Students 14-24).

The first challenge that faced all the SWVI was arranging to have a test-writer for their exams (Students 14-24). Evidence from the SWVI’s interviews indicate that these students were not always provided with a test writer for their exams, and in many cases they had to arrange that themselves (Students 14-24). A legally blind student stated:

> I always send a copy of my schedule to my faculty as well as the Deanship of Student Affairs at the beginning of each semester, but I am not always provided with a test-writer. Sometimes my brother arranges someone to write for me, other times one of the librarians helps, and finally some of my friends assist me from time to time. (Student 14)

The Deanship of Student Affairs was responsible for providing the SWVI with test-writers. Nevertheless, in the academic year 2010/2011, the number of SWVI
increased compared to previous years. It was difficult for the Deanship to provide all the SWVI with test-writers for all of their exams, especially as the number of officers at this department was limited. Thus, they decided to leave this matter to each faculty (Officer 6). Consequently, the SWVI had to contact each faculty responsible for the units they studied to arrange a test-writer for their exams (Students 15-24).

After the responsibility of supporting SWVI in their exams moved from the Deanship of Student Affairs to the faculties, SWVI did not receive the same level of support from each faculty. The English department was comparatively supportive. Many SWVI pointed out that this department provided them with test-writers for their English exams (Students 14-24). In contrast, the SWVI who were studying at the Mass Communication faculty were forced to do their exams orally with their lecturers. A large number of the SWVI were studying at this faculty and the Mass Communication Faculty did not have enough staff to provide them with a test writer for each exam. However, the SWVI who were studying at the Mass Communication Faculty did not find this solution useful (Students 15, 16, 19, 21, 23). One student commented:

I do my exams orally with my lecturers. I cannot check my answers after I finish the exams. When I used to do my exams with a test writer, I had the opportunity to check all my answers before I submitted the paper, but I no longer have this option. (Student 16)

In addition, a few students stated that they felt nervous when they did their exams orally with their lecturers, because they did not have any chance to add or remove any information in their answers. Also, some lecturers had back-to-back exams and they needed to leave straight away after the exams, so they did not have enough time to test the SWVI. Most of the students stated that they usually received 10 to 20 minutes to answer the exam orally, which was not always sufficient (Students 15, 19, 24). Student 21 stated:

In one of my final exams, I answered the first question, then the second. After that, I remembered some information that I had forgotten to mention in the first question. I asked my lecturer after I finished answering the second question to return to the first question and complete the answer. She refused to allow that. She said that I had answered the question already and that I didn’t have any right to answer it again. (Student 21)
Even the SWVI who were studying at other faculties and were provided with a test-writer reported that these test-writers were not always qualified to write the exams for them, and some of them were not patient enough. In some cases the test-writers arrived at the exam venue a little late, which made the students nervous (Student 20). Also some test-writers did not know how to read the questions to the SWVI using appropriate techniques. For instance, a blind student stated that some of her exams contained some questions that had underlined words. Some test-writers read the questions in a monotone voice without telling her which words were underlined. Even when she asked a test writer to reread the question again and to emphasise the underlined words, they seemed to ignore her instruction. In this case, she asked them to specify the underlined words and only then read these words to her. This student believed that the test-writers at UOS did not receive any training in how to read and write exams for the SWVI, though this kind of training was necessary (Student 22).

Another student said:

> When I have a multiple-choice test, some test-writers read the choices only once, and ask me to answer. Also sometimes in the reading part, I needed to read the text a few times to search for all the answers. Some test-writers read the whole text for me every time I tried to answer a new question. Others only read the paragraph that related to the question, which was really helpful. (Student 23)

In addition, Students 23 and 17 stated that they felt uncomfortable doing their exams with a test-writer. They felt confused dictating their answers to the test-writer when their answers were long. These students could not remember all the information and felt shy asking the test-writers to read their answers when they wanted to check over them before submitting the exam papers.

Moreover, most of the SWVI who were Braille readers preferred to do their exams in Braille so they would have an opportunity to read the questions, take time to think, and write and check their answers on their own. Some students also stated that they were capable of doing their exams on the computer, but neither of these options was ever offered at UOS (Students 14, 16, 17, 20, 23).

All the students interviewed stated that they never received their exam materials in accessible formats (Students 14-24). All the Braille readers believed that having their exam materials in Braille could be very helpful, especially for their English exams.
For the English exams, most of the students needed to go through the exam questions carefully and search for the answers in the reading section, which required high levels of concentration. Thus, having their materials in Braille would be a great support, even if they had to complete their exams with a test-writer (Students 14, 16, 17, 20, 22, 23).

Another major challenge relating to exams was that there was no specific policy regarding the required time that the SWVI should take for their exams. Most of the students stated that they would not always receive extra time for their exams (Students 14-24). Only two of the 11 students stated that they were able to finish their exams in the same time as their classmates (Students 14 & 20). Some students stated that some of their lecturers allowed them to take extra time when they needed but other lecturers did not (Students 18, 22, 23). Student 18 commented:

For one of my exams, I took the exam in a separate room. My classmates in the exam room complained about a specific question and the lecturer cancelled the question for them. I was not told that this question was cancelled, and did the whole exam without even receiving additional time. (Student 18)

Further analysis of students’ interview responses also showed that the students who were doing their exams orally with their lecturers did not always receive sufficient time for their exams. (Students 16, 21, 23 & 24). A female blind student commented:

In one of my final exams, my lecturer had another exam straight away at the men’s campus. He gave me only 15 minutes to do the entire exam, when the other students had two hours. He didn’t try to push me to answer, but I was uncomfortable, because I could not check my answers with him. (Student 16)

Another student stated that she needed extra time to do her English exams. She found the reading part very time consuming. She would ask the test-reader to first read the whole reading text for her, and then read the questions. Sometimes she could not understand the questions easily so she would ask the test-reader to dictate the questions. This student would then type the same questions on her Braille Sense to allow herself an opportunity to read the questions several times. After that, she used to ask the test-reader to read specific paragraphs to her to find the right answer.
Although this process was very time consuming, she never received extra time for her English exams (Student 22).

Having provision to take extra time was not the only adjustment the SWVI needed for their exams. Many stated that they needed to do their exams in a separate room, to enable them to concentrate better and to be able to communicate with their test-writers. Once again, there were inconsistencies with the provision of adjustments for exams for SWVI. For example, some students stated that they were always able to do their exams in a separate room (Students 14, 18, 20, 24) while others stated that this was not always the case (Students 17, 23). One student said that he was only provided with a separate room for his final exams and had to do his other exams in the same room as his classmates (Student 23). Another student commented:

Doing my exams with my classmates in the same room was difficult for me because I could not concentrate on my exams. It was a little bit noisy. It was also difficult for the test-writer because he wasn’t able to read the questions to me loudly. And finally, this situation annoyed my classmates. (Student 17)

Further, some students faced other challenges such as doing back-to-back exams and accessing exam materials that contained images. A legally blind student who was studying with an electronic magnifier stated that she could not do two exams on the same day because she needed a very long time to study at home using her magnifier. She needed to take a break from reading every 45 minutes (Student 24). Another student stated that she struggled in her phonetics exam. Her lecturer used many images to explain information in the course. The students needed to learn the physical functions of the human body in terms of pronouncing English words. They needed to understand the role of the human tongue and the lips in the pronunciation process. Therefore, most the questions in the final exam contained images. Her lecturer removed one question for her, which was about the phonetic codes. He thought that this was the only question that she would not be able to answer because she had not studied these codes in Braille. However, the questions that contained images remained and the student was not capable of answering them (Student 20).
7.3.8 Awareness levels

Understanding the level of awareness towards the SWVI at UOS is important in investigating the level of provision these students received. It can also provide insights into the cultural attitudes towards these students inside their community.

All the students interviewed were asked about different types of support they received from sighted students, family members, lecturers, and the university staff. Additionally, these students were asked about their perceptions of the cultural attitudes each group held towards them. They were also asked about their own understandings of their rights and special educational needs.

7.3.8.1 Sighted students

All the SWVI interviewed were asked about their relationships with their classmates and other sighted students at their campus. Most stated that they had good relationships with and received great support from sighted students (Students 14, 15, 17, 18, 19). In contrast, some of the other students stated that they did not always receive the support they needed from sighted students (Students 16, 20-23). Most of the SWVI pointed out that they received some support from the sighted students with their mobility. Additionally, some SWVI stated that their classmates were willing to lend them their lecture notes, and also help them to access course materials and files from Blackboard or from other sources (Students 14, 17, 18, 19, 22, 24). A legally blind student stated:

One of my classmates takes me with him in his car when we finish our class and need to move to another building. Also when my classmates see me walking the wrong way, they warn me and tell me how to get to the right way. (Student 14)

Another student said:

Generally sighted students like to help. Some of them offer their help even if I don’t ask them. Some of them walk with me to my classes even if I tell them that I know how to get there. (Student 20)

Furthermore, some SWVI said that sighted students offered generous help with their studies by audio recording some course materials (Students 18, 22, 24), and helping them with the completion of their assignments (Students 14, 17, 24).
In contrast, some SWVI reported that they had different experiences with sighted students (Students 16, 20, 21). A blind student stated that the sighted students at UOS do not take the initiative to assist the SWVI unless they directly ask for help when they need it (Student 16). In addition, a few SWVI stated that sighted students did not give way to them when they walked around their campus, even when they were holding a white cane. Most of the SWVI believed that the sighted students at their university did not know the meaning of the white cane (Students 16, 20, 22, 24). One student commented:

Sighted students at my university do not pay attention to me when they walk around. Many times when I walk around the campus, people bump into me while going to their lectures. When this happens, they don’t stop to apologise, or even realise that they have bumped into a blind student. (Student 16)

The same student also articulated that sometimes when she asks a sighted student if she is going in the right direction, some of them just answer with yes or no, but they do not offer to guide her to the right location (Student 16). Also, when using stairs, some students remained seated on the stairs and did not stand up or move aside, even if the SWVI are using canes (Students 20, 24). In addition, a blind student stated that some students get upset when she touches them with her cane. They usually do not react unkindly but she feels that they are a little bit upset. This student said:

It is very difficult for me to move around the campus without touching other students with my cane. I think they should understand that I don’t intend to do that. (Student 20)

Some SWVI also stated that not all of their classmates were willing to lend their lecture notes, or engage them in class activities. A blind student said:

We went to the library yesterday and all the students tried to find some books. I was the only student who didn’t do anything. I didn’t like to be in this situation. I asked one of my classmates to take me with her while she searched for the books, but she said that she didn’t want me to do anything. (Student 20)

Student 21 said:

Sometimes when I sit beside some students, they change their chairs because they don’t want to sit beside me. It may be because I’m older than them, and
it is rare to find someone my age doing a bachelor’s degree here in the UAE. This behaviour hurts me. I was very depressed in my first semester because I felt that I’m not welcome. (Student 21)

Some SWVI pointed out that some sighted students seemed to convey pity towards their disability, and when this sentiment was expressed verbally, the SWVI felt very hurt (Students 22, 24). Other students believed that some sighted students held assumptions about all people with vision impairments based on their first experiences with SWVI. If the first SWVI they met was smart and independent, they may assume that all people with vision impairments are like this. Conversely, if the visually impaired person they first encountered was not independent, they might assume all SWVI might similarly lack independence (Student 22).

Some SWVI felt shy or sensitive when asking other students for assistance (Students 14, 15, 21, 23). One student stated that he only asked his classmates for small things such as sending him files from Blackboard (Student 23). Another student related that asking for help made him feel uncomfortable because he knew that they were busy doing their own studies (Student 15).

7.3.8.2 Lecturers

Responses from the SWVI interviewed at UOS indicated that their lecturers were the most important group that they needed support from. All SWVI were asked about their experiences with their lecturers, and some academic staff members were also asked about their experiences with these students. This section focuses on a discussion of the students’ experiences, while discussion on the lecturers’ experiences will be taken up in following section.

The SWVI interviewed related that they found their lecturers to be generally understanding and helpful. However, some seemed to have no clear idea about SWVIs’ special needs and did not seem to know how to support them. Additionally, the students stated that their lecturers had not been informed about their special needs before classes commenced (Students 15-24). Some students indicated that their lecturers did not know about their disability until their SWVI explained this to them, and in some cases these lecturers appeared to forget or overlook this information. One student stated:

I had a quiz a few days ago. Although I informed my lecturer about my impairment at the beginning of the semester, he put the paper on my desk
just like any other student. I was very surprised. I explained to him again
that I cannot read and write, and only then did he ask another student to
write the exam for me. (Student 15)

The students also argued that their lecturers held different attitudes towards their
disability. A blind student who completed her Bachelor’s degree at UOS, and was
now undertaking her Masters degree said:

I categorise the lecturers into three groups: The first group fully discriminate
against the SWVI. The second group treats these students with some pity,
and finally, the third group treats the SWVI normally. (Student 22)

Some students pointed out that some of their lecturers showed unease when they
found out about their disability (Students 15, 21, 23). One student stated that his
lecturer felt uncomfortable when told about his impairment as the lecturer had
previously had a bad experience with another blind student. In this instance, the
lecturer asked the student to find someone to work with him at all times in his class,
especially as this unit required students to complete group assignments (Student 15).

In addition, some students stated that some of their lecturers did seem to
communicate an understanding of their special needs, nor understand the difficulties
they were facing (Students 14, 18). A legally blind student stated that he was facing
many challenges when completing assignments. When he explained these challenges
to his lecturers, some told him that his disability was not an excuse as they had
known lecturers who although blind, had written some well known books (Student
14).

Some SWVI complained that their lecturers did not allow them to participate in class
activities. This decision made these students feel that they were not welcome in these
classes (Students 21 & 24). One student took the initiative to ask her lecturer why
she was not allowed to participate in class activities. This lecturer explained to her
that he did not know whether she could read the question he had written on the
board, and he did not want to embarrass her. After she explained to him that he could
read these questions to her, or ask any student in the class to do that, she started to
participate in his class just like the other students (Student 21).

Another challenge facing some SWVI in their relationships with their lecturers was
that some lecturers did not believe in their abilities (Students 20 & 22). A blind
student stated:
One of my lecturers deducted a few marks from me in my assignment, because she thought that I did not write it on my own. I used to have some spelling mistakes in my writing. I tried so hard to write this assignment perfectly, but my lecturer didn’t believe that it was my own work. (Student 20)

Another student said:

My lecturer gave me a low final mark in his unit, though I scored a high distinction in all the examinations. I did very well in my final exam. I asked my lecturer why my result didn’t correspond with my high marks on the exams. He said that he does not believe that someone who is blind can take high distinction. (Student 22)

All the students stated that their lecturers usually read their notes and the PowerPoint slide content loudly in their classes, which they found very helpful (Students 14-24). Nevertheless, some lecturers read this information quickly, which made note taking very difficult for the SWVI, especially for those who used Braille note takers (Students 16, 20-23).

Furthermore, some students stated that, as some of their lecturers used eye contact or gestures to choose students to answer questions in their lectures, they felt confused, as they could not see this body language. In some cases, the SWVI began to answer a question, only to realise that it was not his or her turn, and consequently felt embarrassed. These students suggested that it would be very helpful if the lecturers called their students by name when they wanted them to respond to class questions (Students 21; lecturer 18).

Some students also stated that when some of their lecturers reacted insensitively in some situations, they felt embarrassed. For example, a partially sighted student stated that she could not access some PowerPoint files from Blackboard. Before her midterm exam, she asked her lecturer to put these files on a flash disk for her. On the day of the midterm exam, having assumed the lecturer had provided her with all the Blackboard files she needed, the student found out that her classmates were studying additional materials. She then realised that her lecturer had not provided her with the complete set of files she needed for the midterm exam. When she explained the situation to her lecturer, the lecturer was upset (Student 21).

Another student stated:
When I asked one of my lecturers to arrange a test-writer for my exam, his reaction was very insensitive. He mockingly said that it is not his responsibility and he cannot ask the university to arrange a special exam just because I asked him to. I was very embarrassed, and my classmates were surprised as well. (Student 20)

In contrast to some of these negative experiences, most SWVI maintained that many of their lecturers tried to help them to access the course materials they needed for their studies. In many cases, the students could not access course materials from Blackboard if they were in PDF format, and Arabic PDF files are inaccessible for screen readers. In such cases, their lecturers gave them the course materials in Word format when they could, which they found very helpful (Student 14, 15, 16, 20-22). In a very special case, a blind student stated that her lecturer typed the whole course’s materials for her in Word format, including the lecturer’s own notes (Student 22).

Another blind student reported that he had a very special lecturer who had very deep understandings of his special needs. For instance, she made all the required adjustments the student needed for his course materials, and asked him to do the same assignment as his classmates with fewer references required. This lecturer also put him in an assignment group with a student the lecturer felt matched his personality and needs, and asked this student to give the blind student a significant part in the assignment. The student felt that this lecturer wanted him to learn and work like his classmates. There was another blind student in the same class, but the lecturer did not treat the two students the same way. She understood the individual needs of each of them (Student 17).

Generally, the SWVI were very sensitive towards any negative reactions from their lecturers. Also, they appreciated the different types of assistance they received from their lecturers with some very touched by their experiences (Student 17, 22). On the other hand, some students were very disappointed with some of the incidents they spoke about (Students 20, 21, 23). However, the lecturers were always the first people the SWVI asked to find the support they needed for their studies.

7.3.8.3 Families

Another important group that some SWVI received strong support from was their family. In comparison to UAEU and ZU, the SWVI at UOS obtained more support
from family members for their studies. This appears to be for two reasons: first, most of the SWVI at UOS lived with their family while completing their higher education. Second, many SWVI at UOS came from well-educated families and had a high level of awareness about SWVI’s special educational needs (Students 14-24).

Some SWVI received strong support from their family members with the preparation of their course materials. Some students typed their materials in Braille at home with the help of their family members (Students 14, 16, 17, 20, 23). A blind student stated that she spent the weekends writing her course materials in Braille, and her parents freed themselves to dictate these materials to her (Student 20). Another student said that his sister-in-law dictated the materials to him (Student 23). Another stated:

My mother helps me quite a lot. She reads and tapes most of my materials for me. My father and my sister also help. (Student 14)

Another blind student commented:

I have two brothers with vision impairments. My sisters are younger than me and my blind brother. They were used to us studying in Braille, and helped us whenever we needed. My sisters dictated the materials I needed for my university, and I wrote them in Braille. They have been doing that since I was at school. (Student 17)

Moreover, for some SWVI, family members provided transport from their home to the university (Students 14, 16, 20, 21). A blind student said:

My brother is studying at the same university. He has a car, and he drives me to the university whenever I need. (Student 14)

With help from family members, some students were able to meet their assignment due dates. As an instance, a blind student was able to type the references he needed for his assignments with the help of his family. His siblings also formatted his assignments (Student 14). Another student stated that her sister typed assignments for her and helped her with online research (Student 16). A partially sighted student said that her niece read the references she needed to her (Student 21).

However, not all the students’ families were able to provide the SWVI with all the support they needed. For instance, some students could not arrange their transport through their family members (Students 22, 23, 24). Those the SWVI who received a pension from the UAE government were able to hire a private driver (Students 23 &
Other students and their families struggled to afford the costs of the assistive technology devices they needed. Some received these devices as a donation (Students 16, 17, 20, 23), while others tried to secure donations to purchase these devices (Students 19, 21).

Most of the students could not cover the educational fees of their studies with the help of their families alone (Students 14-16, 18-24). One student stated that he needed to defer his studies for one semester because his family was unable to cover his tuition fees. Fortunately, in the following semester he received a scholarship and was able to return to his studies (Student 23).

Generally, the SWVI did not expect or take for granted any family support. (Students 21, 22, 24). One student commented:

> It is not easy for me to get enough assistance from my family. Most of them work until 5pm and have no free time. (Student 21)

### 7.3.8.4 University staff

In the academic year 2010/2011, there was no disability department at UOS, or even a designated officer to cover the special needs of the students with disabilities (Students 14-24; Officer 6). Some SWVI would ask specific officers at the Deanship of Student Affairs to provide them with some support for their exams (Students 17, 16, 20, 21, 23). However, in the academic year 2010/2011, the responsibility for providing the SWVI with the provision needed for their exams moved from the Deanship of Student Affairs to individual faculties (Officer 6). Thus, the SWVI needed to deal separately with many different departments at their university (Students 14-24).

All the students interviewed were asked about their experiences with the university staff, particularly in relation to their perceptions of university staff members’ level of awareness of SWVIs’ special needs. As most SWVI avoided asking the university staff for any assistance, they did not have close contact with the university’s administration (Students 14-20 & 22). A legally blind student stated:

> I haven’t received sufficient support from the university’s administrators. When I ask them for any educational adjustment, they usually say that I should ask my lecturers for the required support I need. (Student 15)
In addition, some students stated that some university staff did not have any knowledge of their special needs. For example, some students did not receive enough support from the university staff during the enrolment process (Students 16-19, 22). A blind student stated that she had to go to many different officers to complete all the required steps for her enrolment. She first had to go to her academic supervisor then to the registration department. She stated that she did not find the registration officers very helpful. For instance, if any course numbers were missing or written incorrectly on her enrolment application, the officers would ask her to check it herself. This was a difficult task, as she could not read the tables. The officers could easily have checked the numbers using their computers. In addition, it was very difficult for her to go to the registration department independently, especially as the department had moved to a new building, and she did not know how to get there. This student stated:

I found the staff at the registration department not really understanding or sensitive. They have no idea how difficult it was for me as a blind student to move from one building to another, just to check the course numbers, especially as the buildings are not close to each other. (Student 16)

Also, some students found the level of awareness among the university staff towards their special needs was very low. One student stated:

Yesterday I needed to apply to receive a specific document from the university. I asked an officer how I could apply to get this document. He asked me to go to the opposite office. There were a few offices opposite his office, and I wasn’t able to recognise the right office. I went to all the opposite offices until I found the right officer. (Student 19)

7.3.8.5 The SWVI from UOS

The last group that needed to have a high level of awareness about the special needs of the SWVI was the students themselves. All the students who were interviewed were asked about their eyes’ conditions, their rights as students with disabilities, and finally their ideas about Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities.

Generally, many SWVI at UOS were aware of the reason for their vision impairment. Only two of the 11 participating SWVI were not able to describe the level of their impairment or the condition of their eyes (Students 16 & 24). Most of the SWVI interviewed had a family history of visual impairment. The parents of
many of these students were cousins or relatives from the same family. These students were from different countries in the Middle East (Students 14-18, 21, 22, 24). Some students had one or two siblings with vision impairments (Students 17, 22, 24).

Even when some SWVI were able to describe their sight levels, it was difficult to understand how much they really could see because some students had very complicated sight issues. For example, a legally blind student stated that he could see objects from three metres away. However, because he could not distinguish differences between colours, his mobility was adversely affected. He could not see the location of elevators because both the elevators and surrounding walls were usually of a similar light colour (Student 15). Another student was able to count fingers up to one metre away and could see colours (Student 19). A partially sighted student could not describe how much she could see. She had the best sight of all the SWVI interviewed but could not read large fonts, or distinguish colours (Student 21). On the other hand, a legally blind student who was able to see very little was able to read large fonts using an electronic magnifier (Student 24).

The SWVI were also asked about their understanding of Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and their rights as SWVI. Surprisingly, only three of the 11 students had read the law (Students 15, 17, 22) and only four were aware of the details of their rights as students with disabilities (Students 15-17, 22). Most of the students thought that Federal Law No. (29) had not been implemented in the UAE (Student 15, 17, 22). However, many students believed that they were not made aware of or able to exercise their educational rights at UOS (Students 14 -17, 22, 23).

Some students felt uncomfortable asking their university about their rights for a number of reasons. Some thought that the university was incapable of providing the support they needed. Student 15 stated:

It is my first year at the university. I’m afraid I would face kind of discrimination if I demanded my rights. I don’t want to complain. I want to have the support I need from my university as a right, not by complaining.

(Student 15)

A blind student argued:
I cannot, as a student with visual impairment, force my university to offer me any support that is required by law, because there is no article that forces the universities in the UAE to do that. (Student 17)

Other students showed a high level of awareness of their rights and a high level of understanding of Federal Law No. (29). A blind student stated:

The Federal Law No. (29) doesn’t talk about accessible elevators, doors and stairs. When anyone speaks about the accessible physical environment for people with disabilities, it is understood that this means people who use the wheelchairs only. I think there are a lot of limitations to this law. (Student 17)

Generally, the level of awareness of disability rights among the SWVI at UOS was higher than the level of awareness among these students at UAEU and ZU. This could be because most of these students were members of the Emirates Association of the Visually Impaired, or had close regular contact with some organisations that supported SWVI, such as Tamkeen. Thus they were close to the ongoing debates about people with disabilities issues.

### 7.4 Lecturers’ experiences

The lecturers interviewed in this case study were asked about the additional needs of their SWVI, their opinions about the educational abilities of these students, different types of support they offered these students, their understanding of Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and the challenges they faced in their work with the SWVI.

Generally, the lecturers at UOS came from different cultural backgrounds, and held diverse attitudes towards people with disabilities (Lecturer 17). These lecturers did not seem to have a clear idea about the social culture towards people with disabilities in the UAE. Some academic staff stated that they did not know how SWVI would like to be treated in the UAE, or what level of support they should offer as the students’ lecturer without being either too supportive, or not supportive enough (Lecturers 17 & 18). One lecturer stated:

I came from Egypt, where we treat students with disabilities with kind of pity. I thought people in the UAE had the same culture, but I was wrong. Students with disabilities in the UAE are more independent. I have a blind
student in one of my classes. I couldn’t treat him the same way that I used to treat my blind students in Egypt. (Lecturer 18)

In addition, none of the lecturers interviewed had any idea about Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE (Lecturers 12-18). Hence, those who generously supported their SWVI did so of their own volition, rather than out of any obligation to support the fundamental legislated rights of these students (Lecturers 12-16, 18).

When the lecturers were asked about their opinions towards the educational abilities of the SWVI, some stated that they believed that the SWVI have high educational abilities (Lecturer 12, 15, 17). Other lecturers believed that the SWVI have the same educational abilities as sighted students (Lecturers 13 & 16). However, most of the lecturers stated that the SWVI have better memory capacity compared to sighted students (Lecturers 14, 15, 16, 17). One lecturer stated:

I noticed through my experience with SWVI that not all of them have the same educational abilities. Some of them are very smart, others may have learning difficulties, but generally people with vision impairments can memorise and remember information better than sighted people. (Lecturer 16)

Moreover, all of the lecturers tried to support their SWVI in their classes. All read critical information to these students because they believed that those students needed to receive this kind of information through speech (Lecturers 12-18). One lecturer stated:

If I have a visually impaired student, I try to explain everything in my lecturer in spoken words. I know that they rely on their hearing. I try to speak to their ears not to their eyes. I try to use very clear words and simple language. (Lecturer 15)

Another lecturer said:

I try to repeat some information more than once to give the SWVI further opportunities to take notes during my classes. Also, I read all the notes that I write on the board. Moreover, I call them by their names when I want them to answer a question. (Lecturer 13)
However, these lecturers had different attitudes towards supporting the SWVI with their exams. Some lecturers were willing to give these students extra time whenever they needed it (Lecturers 12 & 17). One lecturer stated that he asked his SWVI to write only the main ideas on the exam sheet for all long questions, and explain their answers orally to him after the exam. He believed that the SWVI could not write as fast as sighted students (Lecturer 12). In contrast, some lecturers assumed that SWVI should be treated like other students and have the same time as sighted students to complete their exams (Lecturers 15 & 18).

Two lecturers stated that they did not deduct marks for spelling errors in the SWVI’s exams, as for some SWVI, their test-writers did not have very good writing skills. However, these lecturers were of the view that not all lecturers made this allowance (Lecturer 14 & 17).

In addition, some lecturers showed a high level of empathy and understanding towards the special needs of their SWVI. One lecturer would start his lectures a few minutes late to give his student more time to get to his class. In addition, he would not leave the classroom until he made sure that his student had someone to take her home (Lecturer 17). This lecturer stated:

I don’t implement the university’s rules with the students who have disabilities. For example, I ask all the students to be on time. Sometimes students with disabilities cannot be on time for several reasons. They may not find someone to take them to their classes, or they may not be able to walk as fast as other students. (Lecturer 17)

Although all the lecturers tried to assist their SWVI, some lecturers faced a number of challenges. One of these challenges was a lack of information about the SWVI’s disability and their additional study needs. None of the participating lecturers in this research had received any prior notice or reports about their SWVIs’ additional needs before the start of the semester (Lecturers 12-18). One lecturer stated:

We as academic staff are surprised when we find out that we have a student with a disability in any of our classes at the beginning of each semester. We don’t receive any report about them or about their additional needs. (Lecturer 13)

Another challenge highlighted by some lecturers was a lack of communication between the lecturers and the SWVI (Lecturers 14 & 15). One lecturer commented:
In the traditional educational system that we have in the Middle East, there is a lack of communication between the students and their lecturers at universities. (Lecturer 14)

Understanding the personality of the SWVI was another issue for some lecturers. A lecturer stated that he did not know whether his blind student was sensitive or easy-going or how she liked to be assisted. For instance, when his blind student was walking around, he would tell her if there was a step or obstacle in her path that she should be aware of. However, he did not know if such advice was appropriate. He assumed that she might prefer to walk independently. There were also times when sighted students might laugh during his class when they saw something amusing to them. His blind student may not have understood why her sighted classmates had laughed. He was concerned that she might think that they had laughed at her. Thus, he tried to explain everything in his class to make sure that she did not miss anything (Lecturer 17). This lecturer commented:

If I treat the SWVI like other students, they might think that I’m insensitive. If I treat them differently, they might think that I treat them with a kind of pity. Knowing what is suitable and what is not suitable is one of the biggest challenges I face. (Lecturer 17)

Another lecturer stated that some SWVI have learning difficulties. It was very difficult for her to explain certain information to a student with both learning difficulties and visual impairment (Lecturer 16).

In conclusion, the lecturers interviewed were keen to assist their students with vision impairments, but not all seemed to have knowledge about the special needs of the SWVI. Additionally, there was at times a lack of communication between academic staff and some SWVI, with some SWVI were not willing to explain their additional needs to their lecturers. Also, there was no department or officer to assist the lecturers with the information they needed to know about their SWVI or provide them with the provision they needed to support these students.

7.5 University staff experiences

During the academic year 2010/2011, there was no disability department, or even any officers to cover the additional needs of the students with disabilities at UOS. The Deanship of Student Affairs offered some support to some SWVI prior to the academic year 2010/2011, such as arranging a test-writer for their exams. This
responsibility moved to the different faculties at UOS starting from the academic year 2010/2011. Nevertheless, the Deanship of Student Affairs continued to offer advice and support to all students at UOS including those with special needs (Officer 6). According to the UOS website:

The Deanship of Student Affairs is an integrated educational and technical body that aims to provide quality services to the University's students. The Deanship takes an active interest in the social, cultural, physical and psychological affairs of students in order to enrich their university experience and educational process. (UOS, 2012c)

However, this department did not have any real authority to support students with disabilities or even a budget to provide these students with the reasonable accommodation they needed. The department offered some services to some students with disabilities, provided these services did not incur additional expenses. For instance, the department provided a partially sighted student with an electronic magnifier after having received these devices through a donation (Officer 6).

Although the Deanship of Student Affairs did not seem to have the capacity to provide students with disabilities with the provision they needed for their studies, UOS still did not have any plan to establish a disability department until the end of 2011.

7.6 Chapter summary

The University of Sharjah is a private university that in 2011 had the highest number of SWVI compared to ZU and UAEU. However, these students received less support at UOS compared to the other two universities. The SWVI interview responses indicate that these students were facing a number of different challenges in their studies at UOS. These challenges included: deficiencies in the SWVIs’ preparation for higher education at the primary and secondary school levels, inadequate accessibility support within the university’s physical environment, lack of easy access to critical study information, limited modification of and accommodation for exams, barriers in accessing preferred study areas, difficulties in studying specific subjects, social and educational attitudinal barriers within UOS, a strong lack of support in the classroom, and personal challenges faced by the SWVI.

The lecturers interviewed also faced a number of challenges in teaching their SWVI.
For the lecturers, these challenges were grounded in: insufficient support from and information about SWVI from the university administration, inexperience in providing SWVI with reasonable classroom learning and exam accommodation, a lack of communication with the SWVI, and low levels of awareness about vision impairment as a disability. These barriers experienced by the lecturers at UOS are similar to those faced by the lecturers at UAEU and ZU, and were also identified in the literature review chapter.

Furthermore, UOS did not have an educational policy for students with disabilities or even a department to provide individuals with special needs with the reasonable accommodation they need. Although the UAE announced new legislation for persons with disabilities in 2006, it seems that this law does not have an implementation mechanism to force universities to accommodate individuals with disabilities. An in-depth analysis of the Federal Law No. (29) of the Year 2006 of the rights of Persons with Disabilities will be provided in the next chapter.

To conclude, the challenges identified at UOS were similar to those identified at UAEU and also reported in the literature review chapter. Some of these challenges were similar to those Dana also faced at ZU. However, interview responses from the SWVI indicate that the social environment at UOS was the most inaccessible environment across the three case studies. Moreover, there were some differences in the level of provision offered to the SWVI across these three universities.

In the following chapter, the SWVI’s experiences will be analysed across the four case studies to provide further insights into the barriers facing UAE higher education institutions in educating and accommodating SWVI.
Chapter Eight
Results and discussion

8.1 Introduction

Providing access to higher education for students with disabilities is very new project for universities in the UAE. Hence, this study aimed to highlight the experiences of SWVI in the UAE higher education system. Four case studies were conducted to investigate this topic. The first case study comprised an autobiographical account using a historical narrative of the author who is a person with vision impairment. The second case study was an individual account of the first SWVI experiences studying at ZU. The third and fourth case studies were conducted at UAEU and UOS and highlighted the experiences of a number of SWVI, lecturers, and university staff at these universities. The intention of the first two case studies was to provide an in-depth account of SWVIs’ everyday experiences in higher education. While the second two case studies offered a broader description of the educational challenges faced by SWVI and their lecturers in the UAE higher education sector.

This chapter presents the results of the analysis of these four case studies in response to answer the following research questions earlier addressed in Chapter 3:

1. What are the main challenges facing SWVI in higher education sector in the UAE?
2. In what sense does the provision in UAE higher education institutions meet the special needs of SWVI?
3. What is the variation in the quality of provision for SWVI amongst the case studies conducted for this research?
4. What are the inconsistencies between Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and actual provision for SWVI in higher education?
5. How could universities in the UAE improve their provision for SWVI?

Investigating these research questions led to the development of the following three new questions:
1. In what sense does the Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE meet the educational needs for SWVI?

2. Did the selected universities in the UAE improve their support services for SWVI as a result of the announcement of the Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities?

3. What are the main challenges facing universities in the UAE in accommodating SWVI?

Reed and Curtis (2012) maintain that success in higher education for SWVI should be evaluated on the basis of the level of students’ satisfaction. Such success requires academic and social inclusion for these students, providing accessibility resources that meet these students’ special needs, and finding ways to address the challenges SWVI face. Bishop and Rhind (2011) argue that there are four main types of barriers facing students with disabilities: ‘personal, attitudinal, environmental, and governmental policies’ (p. 178).

Results from the current research show that there were many barriers faced by SWVI in the UAE higher education sector. These included the four general categories outlined by Bishop and Rhind (2011). However, further analysis of the case studies in this research focused on the experiences of the SWVI, lecturers, and staff, identified six main challenges facing SWVI as well as the higher education institutions in the UAE:

1. Issues in the preparation of SWVI for higher education in the UAE,
2. Accessibility issues for SWVI in the UAE higher education institutions,
3. Cultural and attitudinal barriers faced by SWVI in the UAE higher education institutions,
4. Personal challenges faced by SWVI,
5. Limitations in the supportive legislation concerning the rights of persons with disabilities in the UAE; and
6. The adequacy of the resources available for universities in the UAE to accommodate SWVI.

This chapter presents an overall analysis of the four case studies in an attempt to address the five basic research questions, as well as the three new questions. Through this chapter, each of the six themes identified above is discussed within the key case
study findings that relate closely to these questions. Within each discussion, the research questions understood to relate to these results are identified.

8.2 Issues in the preparation of SWVI for higher education in the UAE

It is well explained in the literature that SWVI have special needs that necessitate exceptional preparation for tertiary education at school. Reed and Curtis, 2012 illustrate: ‘Students with visual impairments have unique challenges that require unique preparation for higher education, including academic and social skills, information about available adaptive technologies, and information about the higher education environment’ (p. 424).

Analysis of the data from all four case studies suggests that SWVI need to develop specific skills during their schooling to be prepared for higher education life. These skills include: braille literacy and numeracy; orientation and mobility; and using adaptive technology. However, data from the SWVI interviews indicate that schools in the UAE do not have the required expertise in the area of vision impairment, as most of the SWVI in this study did not receive the minimum training they needed at school to develop these skills before moving to university.

In the next section, the degree to which this situation affected the amount of training required by the SWVI to be undertaken at school in order to be prepared for higher education will be discussed. The impact of this training on the success of these students’ studies in higher education will also be explored. The analysis of this result would assist to responsive to Research Question 1 in relation to the main challenges facing SWVI in the UAE higher education sector.

8.2.1 Braille literacy and numeracy

Braille is considered by many researchers to be the only writing system that can effectively help people with severe vision loss and who cannot read normal print to achieve an adequate standard of literacy. Through their use of Braille, students with severe vision loss appear to have similar reading and writing skills to sighted students, such as spelling, punctuation, formatting documents, taking notes and reviewing texts (CNIB, 2013; Strobel et al., 2006).
In contrast to these findings, data from the four case studies suggest that the majority of the 25 participating SWVI did not have strongly developed Braille skills. For example, although 20 participants had undertaken Braille training, only 11 were fluent Braille readers and used Braille in their higher education. Analysis of the data indicates that two main factors adversely affected the Braille training of the SWVI at school. First, Braille training was not offered at UAE mainstream schools. Second, many SWVI did not practice Braille at school after initially learning it.

Although Article 11 contained in Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE places the responsibility for educating students with disabilities with the Ministry of Education and the Ministry of Higher Education, Article (9), in contrast, places the responsibility for providing training for people with disabilities with the Ministry of Social Affairs through special disability centres (Federal Law No. (29), 2006). However, data from the case studies indicate that some of the participating SWVI who had attended mainstream schools did not receive any Braille training.

The case study results suggest several reasons for this lack of Braille training in mainstream schools. First, there were no specialists in the field of vision impairment at the Ministry of Education to support the implementation of the policy of inclusion, and there appeared to be no clear understanding of the training SWVIs required. Second, the number of special centres for students with disabilities in the UAE is very limited and as such, their services do not cover all areas of the UAE; in many cases services are distant from students’ schools. Thus, it is difficult to provide all SWVI with the training they need through these centres.

Moreover, analysis of the data from the student interviews shows that only the SWVI who had spent six years or more at special centres for students with disabilities were fluent Braille readers and used Braille during their university studies. This analysis suggests that these students appeared to have had enough time to develop and practice their Braille skills before moving to mainstream schools. In contrast, the SWVI who were integrated into a mainstream school at Grade 4 did not have very good Braille skills. These students did not receive any further Braille training when they moved to mainstream schools, even though they were still in the process of developing their literacy and numeracy skills. Most of these students stated that they relied on their hearing and memory to learn as their teachers did not know Braille and did not encourage them to use Braille. These results suggest that further
education and training for teachers is required within mainstream schools. Similar to this finding, Alghawi (2007) states that there is a lack of training for regular teachers at mainstream schools in the UAE, and that these teachers seem not to know how to educate students with disabilities.

More than half of the SWVI participants at UOS spent six years or more of their primary schooling at a special centre for students with disabilities, and thus had enough time and opportunities to practice Braille. Therefore, they were more independent in their studies compared to the SWVI at the other two universities. By contrast, most of the SWVI at UAEU did not learn Braille. The majority of these students were either partially sighted or legally blind. Although some of these students were able to read either by having their materials prepared in large fonts or through the use of magnifiers, some could not read for a long period of time, or could not read at all.

As described in my own case study, I learnt Braille in the first year of my schooling. However, I did not develop fluency or confidence in my Braille skills until I finished Grade 7. As a student with low vision, I found Braille very useful at different stages of my higher education studies. I used Braille to write lecture notes, type course materials and undertake exams, as I have always found it difficult to read any handwriting, even my own.

For children with vision impairments, the development of Braille literacy and numeracy skills takes time and practice, as is the case for other children who learn print literacy (CNIB, 2013). Thus, SWVI need to be engaged in an ongoing educational process of Braille learning at school, with ample practice opportunities in order to be well prepared for higher education studies. Taken together, the analysis of all the case studies suggests that for SWVI who cannot read normal print, strong Braille skills are significant to their achievement of better academic outcomes.

8.2.2 Orientation and mobility

Orientation and mobility training is significant for individuals with vision impairments regardless of their age, sight level, cognitive ability, or activity level (Martinez, 1998). Such training helps these individuals to move through the environment safely, efficiently and as independently as possible (Royal Guide Dogs Tasmania, nd)
In higher education, SWVI need to learn how to travel from their accommodation to their university, and how to move inside their university (McBroom, 1997). However, responses from the SWVI interviews reveal that only 11 of the 25 student participants undertook mobility training and only nine were capable of using a white cane. These results suggest that the number of SWVI who were capable of using the white cane was fewer than the number of the students who were able to use Braille. Possible factors playing into these outcomes include the lack of mobility training offered in the UAE, the lack of qualified mobility trainers, the level of the SWVIs’ vision loss, the degree to which students were willing to expose their disability, and social attitudes towards disabilities in society generally.

The first and most significant factor that affected SWVIs’ orientation and mobility abilities was the lack of mobility training offered in the UAE. Although Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE left this responsibility to special centres for students with disabilities, data across all the case studies reveal that this training was not offered at these centres or at UAE mainstream schools. None of the participating students received mobility training during their schooling years. Generally, there is a shortage of qualified mobility trainers in the UAE. This shortage is not because of a lack of financial resources in the country, but rather due to lack of programs offered by qualified local specialists in the disability area (Dukmak, 2009).

The interview responses indicate that 11 SWVI undertook short mobility training courses either at the Emirates Association of the Visually Impaired in the city of Sharjah, or at Tamkeen (a special centre offering training programs to people with vision impairments) in Dubai. However, this training was conducted over only one week through a limited number of sessions, and consequently, was not enough to help the students to develop all the skills they needed for their mobility. Furthermore, these organisations do not have a permanent mobility trainer. They only offer this training every few years by hiring a mobility specialist from neighbouring countries. Because Tamkeen and the Emirates Association of the Visually Impaired are located in the city of Sharjah and Dubai, most of the SWVI who undertook the mobility training were from these two cities, or lived close to these two cities. Hence, the majority of the SWVI who undertook mobility training were studying at UOS.

The second factor affecting access mobility training for the SWVI across the case studies was the extent of these students’ vision loss, and how willing they were to
disclose their disability. Analysis across the case studies indicates that blind students, and legally blind students with severe vision loss, in the majority UOS students, were more willing to undertake mobility training and use a white cane than the partially sighted students. In comparison, most of the SWVI at UAEU who were largely partially sighted did not undertake any mobility training, or were willing to use a white cane. Some of these students believed that they still have good sight and do not need to use the white cane. In addition, many of these students stated that they do not want their disability to be identifiable through their use of a white cane they perceived as having a stigma attached.

Riddell et al. (2005) argue that when cultural attitudes are negative towards individuals with disabilities, they feel uncomfortable showing their disabilities. Although the case study analysis indicates that cultural attitudes towards people with disabilities are still negative in the UAE, studies such as Foka et al. (2011) suggest that even in western countries that demonstrate supportive attitudes towards people with disabilities, many people with moderate or severe vision loss avoid using a white cane in order to hide their disability. As a person with low vision and who has experienced different cultural attitudes, I found both of these reasons resonated with my own experiences. When I was undergraduate student, I did not want my disability to be identifiable through the use of a white cane, because I did not want to be treated differently to my sighted classmates. However, I feel more comfortable using the white cane in Australia, as social attitudes in Australia are more supportive towards people with disabilities than in the UAE.

Although orientation and mobility is one of the basic skills that SWVI need to learn during their childhood, the case studies results suggest that SWVI should undertake early campus orientation before starting their university studies to build up familiarity with their university environment. As this kind of training was not offered at any higher education institution in the UAE, attempts to manage on campus mobility needs presented significant challenges to SWVI across the case studies.

8.2.3 Using assistive technology

People with vision impairments use different types of assistive technology to access information, travel independently and engage in everyday life activities (Kelly and Smith, 2011). Such assistive technology makes it possible for individuals with vision impairments to more effectively meet their everyday life challenges (Alshamsi,
In another words, assistive technology has the ability to be a ‘great equalizer’ for people with vision loss (Kelly & Smith, 2011, p.73).

Nevertheless, the case study results indicate that there was a lack of training offered to SWVI in using assistive technology in the UAE, and a lack of specialists in this area. As a result, many of the SWVI who participated in this study could not maximise benefits from the technology that was available at their universities. Similarly, Zhou et al. (2011) in their study of the use of assistive technology by SWVI at a mainstream school in Texas, found that assistive technology is being significantly underutilised by SWVI due to a lack of training and the lack of adequate knowledge on the part of teachers working with these students.

Providing people with disabilities with assistive technology was considered a legal obligation in the UAE after the declaration of Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities. Although the law places the responsibility for providing SWVI with the technology they need on the Ministry of Education and the Ministry of Higher Education, this law, in contrast, left the responsibility for training to the Ministry of Social Affairs (Federal Law No (29), 2006, article (9) & (13)).

The Ministry of Education as well as some universities in the UAE started to provide SWVI with assistive technology only a few years before I commenced this study. However, none of the Ministries in the UAE had an assistive technology specialist, and as such, the SWVI who received some assistive technology equipment did not undertake any training in how to use it. Using assistive technology in the education of SWVI in the UAE is a fairly new project, and yet the country has not developed local expertise.

Furthermore, people with vision impairments usually need to use multiple devices to participate in everyday activities (Strobel et al., 2006). Some of this technology, such as magnifiers, are easy to use and do not require training, unlike devices such as screen readers and Braille note takers that are more difficult to use. However, the only training that was available for the SWVI in the UAE was computer training. Consequently, most of the students who obtained advanced assistive technology at UAEU and UOS such as Braille note takers could not maximise the benefits from obtaining these devices because they did not receive training in how to use them.
Although there are different types of assistive technology available for people with vision loss, the computer is still one of the most powerful devices that SWVI need to use in higher education because it increases access to different types of information and enhances SWVIs’ self-reliance (Zhou et al., 2013). In spite of this, analysis of the case studies shows that sixteen SWVI of 25 – including the author – undertook computer training; however, only seven could use computers independently in their university studies.

Possible reasons for this result include firstly, computer training for people with vision impairments in the UAE was only offered at Tamkeen, which is located in Dubai. Hence, the majority of the SWVI who undertook this training were from UOS and ZU. Second, most of the students who could not use computers easily undertook very short training (only one month) that was not long enough to develop confidence in their computer skills. As described in my own case study, I took approximately three months to learn how to master computer commands by using the screen reader. Third, some students could not afford to purchase a laptop with a screen reader (the cost of a screen reader is around 1500 US dollars) during their training period, made it hard for them to practice.

In addition, many students in the UAE undertake compulsory computer units as a basic requirement for their studies in higher education. However, the SWVI at UAEU and ZU did not benefit from these units because the lecturers of these units did not know how to teach computer information to SWVI. Also, these units were cancelled for SWVI at UOS and also for me as an undergraduate student. This meant that I and other SWVI were denied the same opportunities to learn and develop computer skills as other students at university.

Analysis of the students’ experiences suggests that SWVI should explore what kind of assistive technology could be helpful for their studies, and how to use this technology before starting their university studies. Nevertheless, most of the SWVI in this study could not develop strong skills in using the assistive technology before starting university due to lack of prior training.

On the basis of the students’ experiences, the level of preparation of SWVI for higher education within UAE schools did not meet the special needs of these students at university. As a result, most of the SWVI across the case studies found the first year of their university study very challenging, and not surprisingly, a few
students considered quitting university due to lack of preparation. Nonetheless, preparing SWVI for higher education at primary and secondary levels of schooling does not go far enough without providing these students with an accessible educational, physical and social environments at university.

8.3 Accessibility issues for SWVI in the UAE higher education institutions

People with vision impairments have different types of vision complications, which require specific adjustments to be made to the physical and educational environments. These complications include limited or non-existent night vision, difficulties seeing in dark or bright areas, ‘central vision loss, reduced vision to one side, both sides, above or below, can only see movement’, can only see light and difficulties in identifying different colours (NCBI, nd). For this reason, universities need to anticipate all possible vision complications when designing the physical and educational environments rather than responding to the individual needs of SWVI (Riddell et al., 2005).

During the time this research was conducted, some universities in the UAE such as UAEU and ZU had just started their services for students with disabilities, while other universities such as UOS did not offer any services to these students. The case study analysis suggests that none of these institutions seemed to have a clear understanding of SWVIs’ special needs, or of the reasonable accommodation these students needed. Consequently, the SWVI participants faced significant challenges in accessing the physical, educational and social environments. The analysis of these particular challenges would help with addressing Research Question 1 related to the challenges facing the SWVI in the UAE higher education sector, and also Research Question 2’s investigation into the sense in which provision in UAE higher education institutions meets the special needs of SWVI. This analysis also would assist in answering Research Question 3’s interest in addressing variations in the quality of provision for SWVI amongst the case studies.

8.3.1 Access to the physical environment

SWVI have specific requirements in the physical environment that should be addressed when designing university buildings, and also when locating and signing public transport facilities. For example, research suggests that these students should
have access to convenient public transport to travel independently (England, 2013). Furthermore, doorways should be easy to locate and identify, and all glass doors should be indicated by an opaque contrasting colour. All stairs should be provided with handrails on both sides, and ‘the leading edge of all steps should be clearly marked in contrasting colour’ (NCBI, nd). Additionally, elevators should have audible announcements, clear visual signs, and control buttons ‘should have Braille as well as raised tactile numbers or letters’ (NCBI, nd).

The interview responses and observations conducted for this research indicate that these requirements were not considered in the buildings of UAEU, UOS and ZU. For example, none of the three universities were located close to convenient public transport. Moreover, UAEU and UOS present significant accessibility issues in the physical environment for people with vision impairments, such as spaces between the buildings being too wide, and multiple obstacles to navigate when moving from one building to another. Additionally, not all the stairs were provided with handrails, and the leading edge of each step was not marked in a contrasting colour. Furthermore, not all the doorways were easy to locate and identify. The elevators at UOS did not provide any accessibility assistance for SWVI, while at UAEU elevators were not equipped with any audio announcements. In contrast, analysis of the interview responses and observations suggests that ZU had the most accessible physical environment as the buildings at ZU were close to each other, and with few, if any, obstacles to negotiate when moving from one building to another. Also, the number of stairs was very limited, and the buildings were designed with simplicity. However, the elevators at ZU were not provided with any accessibility options for SWVI.

The analysis of the interviews with educators and decision makers indicates that there is lack of understanding among these participants in relation to the special needs of SWVI in the universities’ physical environment. The general understanding of accessibility for students with disabilities seemed only to focus on providing buildings with ramps, special toilets and parking for people with physical impairments, while the specific idea about the accommodation for SWVI was only about providing elevators with Braille writing on the buttons. One of the main factors that led to this outcome was that the Ministry of Higher Education did not have specific guidelines for the university buildings, and there is no clear guidance about
what is an accessible physical environment for students with different types of disabilities.

8.3.2 Access to information

Data from this research show that SWVI across the case studies needed to have access to course materials, online resources, and libraries. However, the students’ interview responses show that these resources were mostly unavailable for the SWVI, and accessing information was one of the most significant barriers facing these students at the three selected universities.

8.3.2.1 Course materials

Materials for SWVI can be adjusted into electronic, Braille, audio or large print formats (Whitehouse et al., 2009). Analysis of the students’ experiences shows that the adjustment the SWVI needed for their materials depended on their sight level, the technology they use, and the training they had undertaken. Nevertheless, the case studies findings indicate that Dana at ZU was the only SWVI who was provided with accessible course materials. In contrast, UOS did not offer any adjustment to educational materials because it did not have a disability department. Finally, at UAEU, the SWVI who were studying the University General Requirement Unit UGRU were provided with accessible course materials (as the lecturers who taught these units took the responsibility of making the required adjustments to their SWVI), while the majority of the SWVI who were studying their majors at UAEU did not receive their materials in accessible formats.

Analysis of the case studies suggests that a lack of experienced support staff at the three universities was likely to be the main reason of not providing the SWVI with accessible study materials. For example, although UAEU had established an assistive technology laboratory for SWVI, the officers at the disability department did not know how to use this technology and as a consequence, were unable to adjust materials for the SWVI. In contrast, in 2012 ZU hired an experienced officer to accommodate SWVI. However, as only two officers were employed by the Office of Accessibility, it was difficult for them to provide accommodation to all the students with disabilities at ZU campuses, especially as converting materials from print text to electronic text format is very time consuming.
I also faced this challenge in the first year of my doctoral studies. During this year, I needed to read many references. Obtaining these references in electronic text format took significant time, as I needed to wait at least three weeks to receive any book I requested, and at least one week to receive electronic journal articles. Thus, I had to request these references one month prior of writing any chapter, which created extra pressure for me.

Moreover, there are some technical difficulties in adjusting materials for SWVI. Although scanners and optical character recognition (OCR) software are used to transcribe printed materials to electronic text format so people with vision impairments can access them through their computers or through their portable Braille devices, there are still some technical issues using this technology. For example, this technology tends to scan text from left to right, and consequently cannot decipher text in column form such as found in newspapers and tables (Strobel et al., 2006).

Additionally, Mathematics and Science materials are still not easy transcribed into electronic format, because these kinds of materials usually contain numerous images and tables (Whitehouse et al., 2009). Furthermore, the OCR software is still underdeveloped for Arabic text, and over the time this study was conducted, was not yet ready to convert Arabic printed text into computer text formats. Furthermore, some SWVI who were studying Arabic subjects such as poetry and literature stated that Arabic poetry and literature text require delicate pronunciation. Thus, it was difficult for them to access the electronic format of these materials by using screen readers. The screen readers cannot always provide the right pronunciation for Arabic text. For me, I prefer to access English materials than Arabic by using a screen reader, because the pronunciation in English language in a screen reader is much better than Arabic.

Adjusting materials for students with print disabilities should be provided through a separate department that has experienced officers who can deliver this service, as is the case at Australian universities. This type of service is still not implemented in the UAE higher education institutions, and adjusting materials is still part of the disability departments’ roles in the UAE.
8.3.2.2 Online resources

The Internet now constitutes the most significant information source through which students at any school level, educators, and researchers access and disseminate teaching and learning materials and research information. Yet, people with disabilities cannot fully benefit from this significant source as information available on the Internet is not always offered in accessible formats (Strobel et al., 2006). Data from this study suggest that SWVI in higher education need to access Internet information through general Internet websites and the university website. These websites usually contain information in two different formats: web and document (Strobel et al., 2006).

Analysis of the case studies shows that the SWVI were facing different types of challenges accessing Internet information in these formats. Some of these barriers are general challenges that people with vision loss experience in different countries, while others are more specific for the Arab region. One of the general barriers is accessing graphics and images. Graphics and images are largely used to add an additional layer of meaning to Internet websites. Most of these Internet websites do not provide a text description of these images, thus making them unreadable by screen readers (Strobel et al., 2006). Also, many online books are offered as an image for copyright protection, which makes them inaccessible for users of assistive technology. Finally, Arabic PDFs are still inaccessible, and the PDFs that are scanned as an image cannot be accessed through assistive technology devices (Whitehouse et al., 2009).

Furthermore, results of this study show that attempts to access online Arabic information come under greater challenge than those made to access English information. Analysis of the data suggests that this situation is related to the fact that disability services in the Middle East are still underdeveloped, and the term ‘accessibility’ is still not part of the everyday life practice in the Arabic countries. Thus, the special needs of people with disabilities are usually not taken into consideration when designing Internet websites. Also, Arabic screen readers and software for assistive technology are not updated as often as screen readers in other languages, such as English. This might be related to the fact that the biggest assistive technology companies are not based in the Middle East, but rather in countries such as the USA. This situation is further complicated by the fact that there are no funded projects in the Middle East designed to develop Arabic Screen readers and software
for people with vision loss. Hence, SWVI in the Arabic countries are facing more accessibility issues compared to their counterparts in other Western countries.

In addition, the outcomes of this study indicate that the majority of the SWVI across the case studies could not use computers easily. Only seven SWVI of 25 could use computers independently, while the remaining students did not have adequate computer skills to access the online resources, navigate Internet websites, or download files from the Blackboard Learning System due to their lack of appropriate computer training. Furthermore, many universities in the UAE seem not to offer adjustments for the inaccessible Blackboard documents to students with print disabilities. For example, PDF files could be inaccessible to those using assistive technology. I, myself could not access all the PDFs I needed from Blackboard during my PhD study; however, I was able to order these files in Word format through the Print Disability services at Deakin University in Australia. In contrast, UAEU and UOS did not offer this kind of support. Nonetheless, Dana at ZU was the only SWVI who was provided with Word format documents as substitutes for inaccessible PDF documents.

Universities may not be able to effectively address for all the issues that faced the SWVI in accessing online resources; however, they should offer accessibility support services for any documents students cannot access from the online resources.

8.3.2.3 Libraries

The role of the libraries in providing access to different resources of information for people with disabilities has increased significantly in Western countries. Therefore, libraries should implement a universal design, which means designing services and facilities to meet the needs of people with a wide range of abilities and disabilities (University of Washington, 2013).

Results of the case studies show that library services in the UAE were largely inaccessible to the participating SWVI. There were no formal services offered to the students with disabilities at UAEU, UOS and ZU libraries. Data from the students’ interviews suggest that the most needed services at these libraries included a private room equipped with assistive technology devices, a human reading service, a research assistant and adjustments for books and PDFs. Many of the SWVI at the three universities did not use their libraries as a source of information as they could not get the assistance or the reasonable accommodation they needed. The SWVI who
were studying a higher degree by research were most in need of a range of library services and support and yet they could not get the support they needed.

Through both my observations as a researcher, and my experiences as a person with vision impairment, no significant changes have been made to improve accessibility services for people with disabilities in UAE libraries. From my time as an undergraduate student, until recently, most of the libraries in the UAE do not offer access to those with vision impairments. Although some libraries such as the Sharjah public library, and the HCT library in Dubai have established an assistive technology room for people with disabilities, this type of resource alone is still not sufficient to provide access to SWVI. As a person with vision impairment, I cannot read any normal text easily. Thus, I need library assistance to obtain the books I want to borrow, a human reader to assist me to identify which pages are related to my research topic, and references in electronic format so that I can access these through my assistive technology devices. Most of these services are still not available for SWVI in the UAE. Therefore, the majority of the students who took part in this research could not use the library as a main source of information.

In the UAE, the idea of providing access to people with disabilities in the libraries is still not on the public education agenda. For example, in 2000 the three government universities in the Emirates developed a plan to improve libraries at their institutions. This initiative was developed further in 2010. It aimed to start ‘a national digital library consortium’ to address common accessibility issues at libraries, such as ‘copyright, license restrictions, increased range of access, and exchange of experience and technical assistance’ (Taha, 2010, p 296). Nonetheless, this initiative did not include increasing access to students with disabilities at libraries.

Providing access at universities is a new concept within UAE higher education institutions. These institutions do not have a clear understanding of how to create an inclusive environment for students with disabilities. The general understanding of accessibility is based on the services offered by the disability departments, rather than designing the services and the buildings based on a universal design.

Although providing access to information and the physical environment is essential to accommodate SWVI in higher education, on their own they are not enough. Accessible and welcoming social and educational environments are also much needed.
8.3.3 Access to the social environment

Accommodating the educational and physical needs for SWVI is significant; however, it is not enough to provide full access without catering for the social needs of these students. Thurston (2014) points out that the model of inclusion adapted by many educational institutions for SWVI generally concentrates on providing access to the physical and educational environments without focusing on social inclusion of these students, which could lead to social isolation for SWVI.

People with vision impairments are more expected to feel lack of social support compare to the general population, and also more likely to be socially excluded. One of the possible reasons for this is that people with vision loss generally cannot gather information about other people easily and quickly like sighted people. Therefore, it is significant to promote social inclusion for SWVI in the educational institutions as a part of the everyday practice (Thurston, 2014).

Evidence from the case studies suggests that the SWVI faced serious struggles in participating actively in the social lives at their universities. For example, at UAEU, the SWVI were excluded from some social activities such as having their meals at the hostel’s restaurants with the other students. Most of the SWVI had their meals delivered to their rooms. This mainly was because the SWVI found it difficult to manage their mobility at the hostel’s restaurant, and choose their food. Additionally, most of the SWVI at UAEU did not use the UAEU public transport system to travel from their hostels to the university, again due to accessibility issues. Instead, they had a special needs car to drive them around. These special services offered by UAEU created a kind of social isolation for the SWVI. For me as a SWVI, I felt uncomfortable using the special services offered for students with disabilities when I was a student at UAEU, because I did not want to be treated differently to the other university students.

Moreover, data from observations with some SWVI at UOS show that some SWVI were more comfortable socialising with each other than socialising with sighted students. Similarly, data from Dana’s interviews and observations indicate that Dana’s close friends at ZU were her high school friends, and she was not open to making new friends from her university.
Furthermore, many SWVI who took part in this study reported that their lecturers excluded them from doing some group assignments, or some activities both inside and outside their universities.

Through my own experience as a SWVI, I was able to socialise and make new friends at all the universities I studied at. However, I avoided participating in many university activities, because I felt incapable of doing what sighted students could do.

Generally, the SWVI across the case studies in the UAE did not find the social environment at their universities fully welcoming and accepting. Analysis of the data indicates that this outcome could have come about for a few reasons. First, many educators at UAE higher education institutions still do not have a clear understanding about how to include SWVI in the social lives at their universities. Second, it is still believed that SWVI are incapable of doing what sighted students could do, especially when it comes to voluntary work or social activities. Third, higher institutions in the UAE still do not offer enough social activities to improve the social skills of university students. They still think that university life is only about studying and developing academic skills. Fourth, the participation of the SWVI in the social university life was a reflection of the social skills the SWVI have, along with the level of self-reliance. Finally, the social inclusion in the UAE can be seen as a reflection of the social attitudes towards disability in the UAE generally, as well as a lack of understanding about the reality of vision impairment as a disability.

8.4 Cultural and attitudinal barriers faced by SWVI in the UAE higher education institutions

In higher education, a supportive social environment is as important as an accessible physical and educational environment (Matthews, 2009). To gain an insight into the cultural attitudes towards SWVI in UAE higher education institutions, the SWVI in this study were asked about their experiences regarding sighted students, their lecturers, and the university staff at UAEU, UOS and ZU. Analysis of these particular SWVIs’ experiences would provide further insights to inform responses to Research Questions 1, and 2.

Data from interviews with the participating SWVI reveal that these students experience some negative attitudes from some sighted students. For example, the interviewees reported that some sighted students avoided the SWVI in their
classes, and others did not give way to them even when they were using a white cane. Also, on different occasions, the SWVI found the language used by some sighted students insensitive, especially when the latter express how they feel about the disability of these students. Many SWVI reported that they believe that a large number of sighted students feel pity towards their disability, and do not believe in their abilities. However, most of the SWVI stated that that sighted students do not mean to hurt their feelings intentionally, but they seem to lack insight into SWVIs’ special needs, and do not appear to know or understand how vision impairment can affect their lives. The participants frequently related that sighted students are generally willing to help but do not seem to know the right way to offer their support.

Similarly, responses from the SWVI interviews show that academic staff from different Arabic nationalities at both UOS and UAEU, are generally supportive. Nevertheless, all the SWVI at these universities stated that they face negative attitudes from some lecturers. For example, some SWVI reported that they feel that many lecturers cannot understand their special needs and the majority of these lecturers do not know how to engage them in their class activities. Furthermore, a number of the interviewees stated that some lecturers are unwilling to have them in their classes, and that others use insensitive language when they talk to them. Additionally, some SWVI reported that they faced other types of discrimination such as lecturers and administrators excluding them from enrolling in certain units or majors such as: Computer, Geography, Mathematics, Radio and Television Broadcasting.

The participating lecturers’ interview responses indicate that some lecturers feel uncomfortable teaching SWVI, as they do not have experience of providing reasonable accommodation to these students. Moreover, many lecturers point out that they could not get enough support from their universities to accommodate the SWVI. Therefore, they felt that such a responsibility went beyond their skills. Furthermore, the case studies results suggest that those lecturers from countries where students with disabilities are still segregated within educational institutions held more negative attitudes towards these students. In contrast, the lecturers from countries with a history of inclusion in education had more positive attitudes towards SWVI.
The analysis of the SWVI experiences suggests that many students find the negative social attitudes towards their disability to be the most complex barrier they face throughout their studies. Although some universities in the UAE have established official services for students with disabilities, interviews with educators in the higher education sector show that many lecturers understand the concept of providing access as a social matter, rather than as an educational right. Thus, some SWVI felt uncomfortable asking their lecturers and university staff for support for their studies. Also, some students at UAEU and UOS reported that they struggled to enrol into the majors they wanted to study because the educators at their universities did not believe that these students had the same abilities as sighted students, or even the same rights.

Generally, the UAE does not have a long history of inclusion. Integrating students with different types of disabilities into the mainstream education system officially started in 1996, and the first legislation of the rights of persons with disabilities was declared in 2006. The inclusion of people with disabilities into the mainstream education system is a new phenomenon for many educational institutions in the UAE. Alghazo and Gaad (2004) suggest that many educators in the UAE continue to hold to the belief that students with disabilities should be educated in segregated environments.

Gaad (2004a & b) points out that changing cultural attitudes towards a specific group in society is very difficult. Social campaigns or media advertisements are not always effective. Traditional ways of thinking about certain attitudes cannot be changed unless the majority find it inappropriate.

Through my research observations, and my previous experience as a SWVI, I found that the social attitudes towards the SWVI during the time of conducting this study very similar to what I experienced when I was undergraduate student. Although universities in the UAE are trying to improve their services for students with disabilities, these universities are still not delivering enough campaigns or programs to improve the level of awareness towards disabilities at their institutions. Zayed University was the only university across the case studies that organised some campaigns to raise the level of awareness among the university students about SWVI. However, analysis of the observations conducted at ZU indicates that these awareness campaigns were not enough to make significant changes in social attitudes towards SWVI among sighted students.
It is expected that universities lead change in any society through the educational programs they offer on a continuing basis. In addition, universities can attempt to protect students with disabilities from any kind of discrimination by implementing strong policies, especially as some of these students might face quite unique challenges.

8.5 Personal challenges faced by SWVI

There is a paucity of literature focused on the personal challenges faced by SWVI in higher education. Nevertheless, analysis of existing literature, of the reported experiences of the SWVI participants in this study, and of my own journey as a student, indicate that particular personal factors can affect the level of difficulty faced by SWVI in higher education. These reported experiences also illustrate ways that students overcame challenges encountered during their university studies such as: severity of vision loss; deteriorating eye conditions; health issues; multiple disability states; their own level of self-reliance and self-advocacy. The analysis of these results would provide further substance to answer Research Questions 1 and 2.

The first and most important factor that has strong effect on the SWVI experiences across the case studies in this research is the severity of vision loss. Outcomes of this study show that the level of vision loss appears to have a strong influence on the type of adjustments the SWVI needed, the training they undertook, and even how much other people could understand their special needs. Strobel et al. (2006) point out that the level of limitations caused by any disability affects the type of accommodations needed, and the level of significance of these accommodations. Reed and Curtis (2012) argue that SWVI who have less functional vision are likely to have very different experiences to those who have more functional vision.

Evidence from the case studies shows that the adjustments needed for blind and legally blind students to access information through educational materials, Internet websites and libraries are higher than adjustments needed by those who have low vision. Students who have low vision need to access these resources by having them in large print, electronic format, or by using a magnifier. However, blind and legally blind students need to access these resources by having them in Braille, electronic, or audio formats. Generally, it can be concluded from the case studies that it was easier for the universities taking part in this research to accommodate partially sighted students than blind students, as providing large fonts materials and magnifiers did
not require any experience on the part of university staff in comparison to providing formats required to meet the needs of blind students. Also, blind and legally blind students need more training and time to develop independence in their mobility in comparison to those who have low vision.

In contrast, students with low vision across the case studies reported that during their studies, their impairment and special needs were not clearly understood by sighted students, lecturers, or by university staff; while blind students did not experience the same struggle. Similar results are reported by Roy & MacKay (2002) who maintain that low vision, as an impairment, is more difficult to understand than blindness. They reported that people with low vision could not clearly explain what they can see, or not see, because their sight fluctuated, depending on the situation and the environment around them. This complexity in the levels of vision may affect individuals’ ability to define themselves. Therefore, adults with low vision have more negative self-perceptions than those who are sighted or even blind. For this reason, the majority of the partially sighted students in this study did not report that they felt comfortable in categorising themselves as a student with disabilities.

I, myself, experienced the same struggle during my higher education studies. Sometimes I found it easier to define myself as a blind, and at other times as sighted depend on the situations I face. For example, when I was an undergraduate student, the majority of my lecturers could not understand the reality of my impairment. When I defined myself as students with low vision, most treated me as sighted, and did not provide me with enough support for my exams. Thus, I used to categorise myself as blind to get the support I needed.

The second personal challenge some SWVI reported that they experienced during their university studies is deteriorating eye conditions. During the time of conducting this research, three students of 25 (including the author) had deteriorating eye conditions. These students reported that they worried about how they could adapt to their disability if they lost their remaining sight. Roy and MacKay (2002) also report such challenges in pointing out that people with congenital low vision might also fear losing their remaining sight; however, this fear appears to be more common in those who have deteriorating eye conditions who become stressed about the need for continual re-adaptation. As a person with low vision, I have always felt the fear of losing the remaining sight I have, especially as I have two blind siblings, and I do not
know how long I may have before I may need to learn how to do things in a different way.

The SWVI in this study who had deteriorating eye conditions needed to intermit their studies to undergo medical procedures. Some students reported that they had to travel overseas for treatment. This appeared to place these students under great pressure to catch up on their studies after every intermission. Also, all of them experienced a level of depression during their treatment period; however, unfortunately not all the universities in the UAE had, or even to this day, have counselling support services. I was the only student in this study who received counseling sessions during the time of my eye treatment. This was a basic service offered to the university students in Australia, and I found it very helpful.

Moreover, some SWVI who participated in this study experienced different health conditions, and they needed extra support for their studies. For example, one student had an on-going cancer condition, while another student had epilepsy. These two students found it more difficult to handle the challenges they were facing as a SWVI, and to manage the health conditions they had at the same time. These students reported that the medication they were taking had strong adverse impacts on their study capacity, and they needed to take a number of days off, or do their exams at different times to their classmates. However, they did not find the university staff sufficiently aware of the extent to which these medical conditions could affect their everyday lives and what kind of extra support they needed.

In addition, some SWVI had other disability besides vision impairment. These disabilities included physical impairment, hearing impairment and learning difficulties. These students were treated as only vision impaired, and were not provided with additional accommodation for the other disabilities they have. Results from this study indicate that universities in the Emirates did not have ‘special consideration’ for such students. These universities struggled to cover the special needs of the SWVI and it was more difficult for them to accommodate those with multiple disabilities. Additionally, the staff working at the disability departments at these universities did not have the required experience to identify what kind of reasonable accommodations were required for such students. Such difficulties appear to make university life for these students even more challenging.
One of the main personal challenges affecting the way the SWVI overcome the difficulties they experience, and the level of support they need is self-reliant. Analysis of the students’ experiences indicates that the SWVI in this study, who were born with vision impairment or who developed a vision impairment in their early childhood were more independent and needed less support in their studies than those who acquired the impairment later in their lives. Such findings are similar to those reported by Roy and MacKay (2002) who state that it is easier for those who have impairments in their early childhood to adapt to their disability than those who have the impairment during their adulthood. Interview responses and research observations with the students show that the SWVI who undertook some training in areas such as Braille, orientation and mobility, and the use of adaptive technology, were more independent than those who did not undertake such training.

Additionally, this study’s results suggest that the SWVI who studied at a special centre for students with disabilities had more self-confidence than those who studied in mainstream schools. The analysis of the SWVI participants’ responses indicates that this outcome may be because the SWVI who studied at mainstream schools were treated with a high level of sympathy, and were not trained, or encouraged to develop their independence; hence with adverse impacts on their development of self-reliance. Moreover, this analysis suggests that personal qualities related to personality, resilience and determination played significant roles in determining the success, or otherwise of students’ attempts to overcome these challenges.

The second main personal challenge affecting the way the SWVI overcome the difficulties they experience in the UAE higher education system is their levels of self-advocacy. Castellano (2010) identifies self-advocacy as follows: “the ability to speak for—and speak up for—youself—effectively”. She states that educating self-advocacy skills to people with vision impairments should start in early childhood, and continue through appropriate steps later in their lives. The main aim of teaching these skills is to help children to be responsible for their lives and to be able to speak for themselves.

Analysis of the SWVI interviews indicates that the levels of self-advocacy were different across the case studies conducted for this research. For example, although Dana found the educational and social environments at ZU very supportive, she was not willing to ask for the support required for her studies. Similarly, a large number of the SWVI at UAEU were not comfortable asking for the support they needed. In
contrast, the SWVI at UOS had the highest levels of self-advocacy compared to the SWVI at UAEU and ZU.

Analysis of the data across the case studies suggests that there are different reasons affecting the levels of the SWVI’s self-advocacy across the case studies. First is the level of awareness among the SWVI about their impairments and the accommodation they need. Castellano (2010) states “most definitions of self-advocacy focus on the person’s understanding the disability, knowing his/her needs, and knowing how to request accommodations”. It is difficult for SWVI to ask for support without having a clear understanding about their impairment, and what kind of support they need. Second is the level of acceptance and support the students received from their families. Data from the students’ interviews show that the SWVI who grow up in families that have positive attitudes towards their disability were more open to speak about their impairment and ask for support than those who grow up in families that have negative attitudes. Third is the cultural attitudes towards disability at their university and in their communities, whether encouraging or discouraging them to speak up about their special needs. Finally, the students’ personalities, including whether they are shy or outgoing, is another factor.

To summarise, multiple personal challenges were found to have a strong influence on SWVIs’ development of educational abilities, the types of accommodation needed, and also on the training required to develop their independence. From the study outcomes, it appears that there is an urgent need to design an individualised personal disability support plan for each SWVI that takes into consideration extra challenges these students might have.

8.5 Limitations in the supportive legislation concerning the rights of persons with disabilities in the UAE

The United Arab Emirates is one of the most recent countries to make efforts to promote the rights of people with disabilities. The first legislation concerning the rights of persons with disabilities was declared in the UAE in 2006 and is known as ‘Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities’. In this study, this law will be referred to as ‘Federal Law No. (29)’. This law was designed to ensure equal opportunities for people with disabilities in education, health, employment and social welfare (Alshamsi, 2010).
The UAE also signed and ratified the UN Convention on the Rights of Persons with Disabilities in 2010. This makes the UAE one of many countries that have taken responsibility for providing people with disabilities with the services identified in this convention (Alshamsi, 2013).

It is significant to review the educational rights for persons with disabilities in Federal Law No. (29) and to scrutinize the extent to which degree this legislation caters for the special needs of the SWVI in higher education. Furthermore, it is important to analyse the impact of this law on the quality of services provided to the SWVI across the case studies. Analysis of this result would assist in answering Research Question 4, which investigates inconsistencies between Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and actual provision for SWVI in higher education. It will also help in answering the first two of the three later developed research questions, which investigates in what sense the Federal Law No. (29) in the UAE meets the educational needs of SWVI, and also if the selected universities in the UAE improved their support services for SWVI as a result of announcing this law.

8.5.1 Reviewing the educational rights for persons with disabilities in Federal Law No. (29)

In order to understand the degree to which Federal Law No. (29) meets the educational needs of SWVI in UAE higher education, this law’s basic definitions will be explored. This exploration will contribute to an understanding of the influence these definitions have on the provision of accessible social, physical and educational environments for SWVI in higher education. Following this discussion, the legislation relating to training and educating persons with disabilities will be analysed. This will help to understand the degree to which this law addresses the special needs of SWVI in the UAE higher education sector. To follow, the issue of accessibility will be discussed in order to gain an insight into the general perspective of accessibility as interpreted by this law.

8.5.1.1 Federal Law No. (29) Concerning the rights of Persons with Disabilities: definitional analysis

Key definitions contained within Federal Law No. (29), as a legal document, have a critical role to play in identifying the rights of persons with disabilities, the specification of their special needs, and in addressing the kinds of reasonable
accommodation that should be provided to those with disabilities. Article (1) of this law contains definitions of ‘the State’, ‘the Ministry’, ‘the Minister’, ‘concerned bodies’, ‘person with disability’, ‘ID card’ and ‘discrimination’ (Federal Law No. (29), 2006, Article (1)).

Analysis of Article (1) of Federal Law No. (29) indicates that there are two definitions have a direct influence on the educational life of SWVI in higher education: the definition of a ‘person with disability’; and the definition of ‘discrimination’.

The term ‘Person with disability’ is defined in Federal Law No. (29) as: ‘Each person with an incapacity, total or partial, permanent or temporary, in his physical, sensory, mental, communication, educational, or psychological abilities to an extent of being unable to fulfil his regular requirements’ (Federal Law No. (29), 2006, Article (1)).

During the past decade, many researchers in special education and human rights have shown great interest in analysing the definitions of disability. Definitions of disability can reflect the social attitudes towards persons with disabilities and affect the way people without disabilities communicate with those with disabilities. In addition, definitions of disability can affect various types of provision for such persons in different aspects of their lives (Alshamsi, 2010), such as in education, welfare services and income support eligibility, health, and work placements.

Analysis of the definition ‘person with disability’ within Federal Law No. (29) shows that the UAE appears to adopt the medical model of disability. This model focuses on the physical limitations that are caused by disability. This model was criticised by many disability activists because it looks at disability as constituted in ‘individual deficit, and ignores barriers created by social and physical environments (Riddell et al., 2005). This model of disability has implications for a number of educational issues. For example, it regards students who have similar impairments to be equal in their learning capacity, thus avoiding the need to design educational programs suited to students’ individual needs. Mathews (2009) states that defining disability on the basis of an individual impairment distracts attention from the need for serious solutions to ‘change disabling social and physical environments’ (p. 231).

The second important definition that needs to be highlighted in Federal Law No. (29) is the definition of ‘discrimination’. In Article (1) of this law, discrimination is
broadly defined as: ‘Any discrimination or disqualification due to disability which incurs damages or unacknowledgment of any of the rights prescribed in the effective legislations in the UAE or enjoying or exercising such rights based on equality’ (Federal Law No. (29), 2006, Article 1).

Analysis of the definition ‘discrimination’ within Federal Law N. (29) reveals that this definition does not specify differences between discrimination on the basis of disability and other types of discrimination. Discrimination on the basis of disability does not only mean excluding persons with disabilities from obtaining equal rights. Discrimination on the basis of disability is also evident where the social, physical and educational environments are inaccessible to people with disabilities; thus hindering their attempts to gain access to the same services that are available for all people in society (Alshamsi, 2013).

Moreover, the definition of discrimination in the UAE Federal Law No. (29) does not distinguish between the difference between direct and indirect discrimination (Alshamsi, 2013). Direct discrimination occurs when a person is treated unfavourably in comparison to others because of age, gender, disability, ethnicity or parental state. In contrast, indirect discrimination occurs when a specific policy seems to treat all people equally without taking the special needs of certain groups into consideration (Healy & Associates, 2010).

Additionally, Federal Law No. (29) does not include any definition of accessibility, such as: reasonable accommodation, universal design and alternative methods of communication. Clarifying these definitions is significant in ensuring that the environments of people with disabilities are fully accessible and do not prevent them from participating in day-to-day activities (See Federal Law No. (29), 2006, Article (1)).

Overall, analysis of the definitions within Federal Law No. (29) suggests that these definitions do not specifically address the construction of inclusive social and educational environments for students with disabilities, or even protect them from different types of discrimination on the basis of disability.

8.5.1.2 Education and training for persons with disabilities in Federal Law No. (29)

The educational rights for persons with disabilities at universities should addresses issues about offering access and reasonable accommodation in higher education, the
preparation of prospective students for life in higher education, and training needs. To understand the extent to which Federal Law No. (29) addresses the educational and training needs of the SWVI, an analysis of the educational rights for persons with disabilities in this law is offered below.

Federal Law No. (29) guarantees that persons with disabilities have access to education, and the academic curriculum they need:

The State shall guarantee to provide for a person with disability equal educational opportunities in all educational institutions, vocational training and continuing education in regular classes or special classes where necessary. The academic curriculum shall be delivered in Braille or sign language or any other method as the case may be. (Federal Law No. (29), 2006, Article (12))

Analysis of Article (12) in Federal Law No. (29) suggests that although this article stresses the rights of persons with disabilities to obtain equal access to education, it more narrowly focuses on educational needs for students with disabilities within an academic curriculum context, without any reference to the need to create accessible physical and social environments. Moreover, there is a lack of specific detail about the different types of reasonable accommodations required to adjust curriculum materials for SWVI, such as electronic, large print, audio formats and the need of a personal reader. The only adjustment mentioned in Article (12) relates to the use of Braille. Outcomes from the current study show that the number of participating SWVI capable of reading Braille across the case studies was limited. Alshamsi (2013) points out that the term ‘reasonable accommodation’ in this Article needs to be more comprehensively defined to embrace multiple types of adjustments that are required to accommodate students with different types of disabilities. Such a definition would recognise academic, social, physical and emotional accommodation contexts.

Additionally, Article (13) of Federal Law No. (29) specifies the responsibility of the Ministry of Education and the Ministry of Higher Education to encompass:

The Ministry of Education and the Ministry of Higher Education and Scientific Research shall undertake to take the suitable measures, in cooperation with the concerned bodies, to provide educational diagnosis, academic curricula and teaching assistive devices and technologies. The two ministries shall also provide alternative methods that enhance communication with persons with disabilities, and develop
alternative strategies for learning, providing an accessible environment in addition to other necessary techniques that ensure the involvement of students with disabilities.

(Federal Law No. (29), 2006, Article (13))

Analysis of this article shows that some of the terms lack clear explanation. For example, it is difficult to understand what ‘educational diagnosis’ means. It is not clear whether it relates to the specification of special educational needs for students with disabilities only, or the identification of their disabilities. In addition, the term ‘accessible environment’ is not clearly explained. It could potentially include the physical or social environments, or both (Alshamsi, 2013).

Article 13 also limits the responsibility of the Ministry of Education and the Ministry of Higher Education to educational provision in seven areas: educational diagnoses; academic curricula; assistive technology; alternative ways of communication; alternative learning strategies; and the accessible environments. These responsibilities do not include providing training in life and social development skills (such as orientation and mobility for SWVI) to help persons with disabilities to be fully independent in their everyday activities. Furthermore, the Article places the responsibility for providing assistive technology devices on two ministries: the Ministry of Education; and the Ministry of Higher Education. However, there is no reference as to who is responsible for providing training in using assistive technology devices. Results from the current study show that the acquisition of assistive technology devices to be less of an issue for the SWVI in the UAE higher education sector than the lack of opportunities for students to undertake training in their use.

Finally, analysis of Article (13) in Federal Law No. (29) indicates that this law does not specify differences between the educational needs of persons with disabilities during their school years, and those more relevant to higher education years. There is a lack of clarity between the division of responsibility of the Ministry of Education and the Ministry of Higher Education. Results of the current study highlight the multiple skills SWVI need to learn at school before starting university: life and social development skills; Braille literacy; and the use of assistive technology. Evidence from the case studies in this research shows that it is difficult for the SWVI to develop these skills while they are undertaking university study.

The responsibility of universities towards students with disabilities, as explained in Article (24) of the UN Convention of the Rights of Persons with Disabilities, is
restricted to the provision of equal access to higher education, and reasonable accommodation. The provision of training and life skills education is the responsibility of schools. As the UAE signed and ratified the UN Convention on the Rights of Persons with Disabilities, it was obligated to ensure the implementation of such convention through Federal Law No. (29).

Moreover, analysis of Federal Law No. (29) shows that this law in Article (14) places the responsibility for preparing employees who work with students with disabilities on the Ministry of Education and the Ministry of Higher Education. In contrast, Article (9) in the same Law leaves the responsibility for providing training for persons with disabilities to the Ministry of Social Affairs through disability centres. This division of responsibilities creates a real dilemma in relation to the extent to which the UAE law supports the inclusion of students with disabilities within the mainstream school system (Federal Law No. (29), 2006, Article 9 & 14).

As it appears from the analysis of Federal Law No. (29), the UAE legislation does not completely absolve the Ministry of Social Affairs from its responsibility to educate individuals with disabilities through special centres for students with disabilities. Experiences of the SWVI in the current study indicate that students who attended mainstream schools could not undertake any training through these centres, as the number of these centres is very limited, and they do not offer the different types of training SWVI need. As a result, many SWVI in this study could not gain access to the types of training they needed to develop independence at university.

The educational rights of persons with disabilities, as outlined in Federal Law No. (29), do not appear to adequately address the special needs of the SWVI whether at school or at university. The law only clarifies ministerial areas of responsibility: the Ministry of Education; and the Ministry of Higher Education. It makes no reference to the educational rights of students with disabilities. Further, there is no specific, dedicated section of the law relating to the educational rights for persons with disabilities in higher education. Finally, the law does not guarantee the provision of inclusive education to persons with disabilities within mainstream educational institutions. As such, it places the responsibility for training and provision on a limited number of special centres for students with disabilities that offer a narrow range of services in segregated environments.
The SWVI have different types of accessibility requirements in higher education. The UN Convention of the Rights of Persons with Disabilities outlines the needs for accessibility as follows: ‘Buildings, roads, transportation and other indoor and outdoor facilities, including schools, housing, medical facilities and workplaces … Information, communications and other services, including electronic services and emergency services’ (UN Convention of the Rights of Persons with Disabilities, Article (9)).

Federal Law No. (29) contains six articles related to accessibility for persons with disabilities. These articles come under the title ‘Accessible environment’. The first two articles relate to the general requirements for persons with disabilities regarding an accessible environment, while the other four cover accessibility needs for people with disabilities related to the condition of streets, housing considerations and obtaining driving licences. This law specifies the rights of persons with disabilities to an accessible environment as follows: ‘Every person with disability shall have the right to an accessible environment and to have access to everything that others have access to’ Federal Law No. (29), 2006, Article (22)).

However, analysis of the term ‘accessible environment’ suggests that this term is neither clearly explained nor defined in this law. Also the law does not specify what kind of accessibility measures persons with disabilities require in the physical environment. Furthermore, there is no reference to the training that people with disabilities might need to undertake in order to safely access their everyday environments (such as orientation and mobility for people with vision loss). Finally, there is no reference to the need for personal assistants as options for people with disabilities to gain access to information and communication services, or to assist with mobility in the physical environment when needed.

Within the context of Federal Law No. (29), the term ‘accessible environment’ refers only to the physical environment. Although the law stresses the right of persons with disabilities to receive information in accessible formats, this appears in the general provisions section rather than under accessibility. This lack of both clarity and ease in locating information related to accessibility in this document may result in many SWVI being unaware of their rights in this regard. This may be the case for many of the students in this study such as the SWVI at ZU and some students at UAEU.
According to this law’s Article 7: ‘The State shall guarantee to grant a person with disability freedom of expression and opinion using Braille, sign language and other communication methods, as well as the right to request, receive and transfer information based on equality’ (Federal Law No. (29), 2006, Article 7).

Nevertheless, analysis of Article (7) shows this article does not include any mandatory compliance mechanisms to force different organisations in the UAE to offer information in accessible formats to individuals with disabilities. For example, there is no provision in the law to require that publishers in the UAE must provide access to persons with disabilities. Whitehouse et al. (2009) point out that without legislation forcing publishers to provide people with print disabilities with digital copies of publications, the whole responsibility for adjusting educational materials will fall on librarians and support staff in higher education, while publishers themselves would not be under any legal obligation to provide readily accessible formats. Outcomes from this research indicate that this is one of the great challenges faced by universities in the UAE.

Overall, evidence from the analysis of Federal Law No. (29) indicates that this law does not adequately address all aspects of the lived experience of SWVI through its definitions, specification of educational rights or through its limited consideration of accessibility. It also seems that the law offers only weak protection of student rights to gain equal access to education. In summary, this law does not provide clear information about what kind of reasonable accommodations that persons with disabilities require in the educational institutions. Consequently, this legal document is inadequate in providing universities in the UAE with sufficient guidance to accommodate students with disabilities.

8.5.2 Issues in the implementation of Federal Law No. (29)

Although the UAE enacted new legislation to protect the rights of persons with disabilities in 2006, this law has been criticised for its lack of ‘implementation measures’ and lack of ‘enforcement mechanisms’ (Alshamsi, 2010, pp. 315-316).

In terms of implementation measures, the law left responsibility for its implementation to four committees; each having a specific area of responsibility for persons with disabilities: medical services and rehabilitation; teaching; employment; and sports and culture (Federal Law No. (29), 2006, Articles: (11), (15), (19) & (21)).
Alshamsi (2012) states that placing the responsibility for implementing the law with four different committees led to a coordination vacuum between these committees. This may impede development of one national more inclusionary policy that covers multiple and diverse aspects of the lives of persons with disabilities. Moreover, Federal Law No. (29) has designated responsibility for formalising a national policy on educating students with disabilities to ‘the specialized committee for teaching persons with disabilities’, directed by the Ministry of Education, without engaging the Ministry of Higher Education in the progress of this committee (Federal Law No. (29), 2006, Article (15)). Although this committee was established after the declaration of this law, it has not made any contribution to the educational program for students with disabilities in the UAE until now, or even announced any educational policy for these students (Alshamsi, 2012).

In addition, there is no independent organisation in the UAE to ensure the implementation of Federal Law No. (29), or compliance with the UN Convention of the Rights of Persons with Disabilities. Although the UAE has signed and ratified the UN Convention on the Rights of Persons with Disabilities, it has not established an independent mechanism to guarantee the implementation of the convention’s protocols. Also, Federal Law No. (29) does not specify within its articles any consequences for those who might discriminate against individuals with disabilities, or who deny them their legal rights (Alshamsi, 2013).

Another issue related to the implementation of Federal Law No. (29) in higher education is the lack of supportive educational policy for students with disabilities. Interviews with Ministry of Higher Education officers in this study reveal that there is no national educational policy for students with disabilities in the higher education sector in the UAE. Federal Law No. (29) places the responsibility for accommodating students with disabilities at universities on the Ministry of Higher Education; however, in practice, the Ministry of Higher Education has delegated this responsibility to individual universities, with each university in the UAE accountable for its own administration and budget. As a result, accommodating students with disabilities became a somewhat arbitrary and individual choice for each university. Most of these universities did not have a disability educational plan at the time this study was conducted. Therefore, the accommodation the SWVI received through the case studies in this research was more likely to be a response to the individual needs
of these students, rather than a reflection of a clear educational plan such as the case at ZU and UOS.

8.5.3 Addressing the relationship between Federal Law No. (29), and reality of practice for SWVI in the UAE higher education sector

Although there are different areas of limitations in Federal Law No. (29), this law specifies some educational rights for students with disabilities as follows:

1. Equal educational opportunities in all educational institutions;
2. Accessible academic curriculum;
3. Educational diagnosis;
4. Assistive technology devices;
5. Accessible educational environment;
6. Alternative strategies for learning; and
7. The services of trained employees to work with students with disability and their families. (Federal Law No. (29), 2006, Articles: (12), (13), (14)).

This law places responsibility for providing the services outlined above for students with disabilities with two Ministries: the Ministry of Education and the Ministry of Higher Education and Scientific Research (Federal Law No. (29), 2006, Articles: (12), (13), (14)). However, results from the case studies in this research indicate that SWVI are still struggling to exercise their educational rights in higher education sector in the UAE.

According to Federal Law No. (29), students with disabilities have equal educational opportunities in all educational institutions. This means that such students have the right to study at any university, and to enrol in any course major offered at these universities. Nonetheless, responses from the SWVIs’ interview in this study indicate that a number of the SWVI could not attain entry into some universities, and around twenty percent of the students interviewed related that they were not accepted into the course majors of their choice. These responses suggest that a lack of both provision offered to these students at these universities, and understanding of the real abilities of the SWVI, represented main barriers, or challenges to the students’ study aspirations.

The second educational right identified for students with disabilities contained within Federal Law No. (29) is the right to have an accessible academic curriculum. This
should include course materials, textbooks, and online resources. However, the study’s key results show that the majority of the SWVI at UAEU and UOS did not receive their educational materials in the formats they needed, as these two universities did not have experienced officers with the skills needed to adjust the educational materials for students with print disabilities.

Furthermore, Federal Law No. (29) places the responsibility for identifying the disabilities and the educational needs for students with disabilities jointly on the Ministry of Education and the Ministry of Higher Education. This presented significant challenges to the universities across the case studies.

Analysis of the staff interviews at UAEU, ZU, UOS, the Ministry of Education and the Ministry of Higher Education shows that there was no strong contact between the Ministry of Education and the Ministry of Higher Education during the study’s data collection period. Thus, universities in the UAE did not receive any reports about the disabilities or educational needs for the SWVI before these students started their higher education. For example, the three selected universities in this research came to know about the disabilities of their students through the admission applications, or in some cases, the mandatory medical tests that new students completed before starting university. These medical reports did not provide enough details about the disabilities of the students, nor any information about the accommodation these students would need in higher education. For that reason, universities needed to identify the disabilities and educational needs of these students after these students had started their studies. Evidence from the case studies indicates that this was a significant challenge for the disability departments at these universities. The staff at these departments did not have enough knowledge about the different categories of vision impairments, or about the accommodation needed for each category. Therefore, the disabilities of some SWVI, especially those who had low vision or were legally blind, were not accurately identified.

The fourth educational right specified for students with disabilities in Federal Law No. (29) is the right to obtain appropriate assistive technology. Evidence from the case studies shows that universities with established disability departments, including UAEU and ZU, made a great effort to provide the SWVI with the assistive technology they needed and further, established assistive technology laboratories to support these students. Nevertheless, the costs of these devices were not covered through the university’s budget, but rather through donations, which meant that the
SWVI did not obtain these devices as a legal right. Additionally, the semi-private UOS, neither established an assistive technology room for students with disabilities, nor provided these students with the technology they needed, as UOS did not have any educational plans to accommodate students with disabilities.

The fifth educational right identified for students with disabilities in Federal Law No. (29) is the right to have an accessible educational environment. Although the term ‘accessible educational environment’ is not identified in this law, the law in Article (23) stresses the right of persons with disabilities to have access to the physical environment, and in Article (7) to have access to information. However, this study’s results show that the law’s accessibility terms and conditions for universities in the physical environment do not provide any clear guidance in this regard. Significant accessibility issues in the university buildings for SWVI were identified across the case studies, particularly at UAEU and UOS. Even the newer campuses built after the declaration of federal law such as the new female campus at UAEU did not consider accessibility requirements for SWVI. Additionally, outcomes of this research indicate that the majority of the SWVI who took part in this study neither received their course materials in accessible formats, nor had access to the online resources or even the libraries, which means that the information resources were not offered in accessible formats for these students in higher education sector.

Moreover, Federal Law No. (29) states that students with disabilities should be provided with alternative learning strategies, which might include the design of special educational programs to address the special needs of these students. Results from this study suggest that a lack of alternative learning strategies represented a key main challenge facing the three case study universities, especially as these universities did not have enough experience in accommodating students with disabilities. Around 20% of the SWVI who took part in this study could not enrol into the majors they wanted to study because their university did not have experience in teaching information without using images to the SWVI. Therefore, majors such as Computers, Mathematics, Geography, and Radio and Television Broadcasting represented a serious struggle for the SWVI to study.

Finally, Federal Law No. (29) places responsibility for preparing employees working with students with disabilities on the Ministry of Education and the Ministry of Higher Education. Nevertheless, results from this study indicate that the number of specialist employees qualified to provide services to SWVI is extremely limited in
three significant areas: orientation and mobility; adaptive technology; and Braille literacy. Alhammadi (2012) points out that not one of the required specialisations in the field of vision impairment has been taught at any university in the UAE. Consequently, the SWVI who took part in this study struggled to gain access to the training needed to develop the required skills they needed for effective study in higher education.

As universities in the UAE still do not have the required experience to accommodate SWVI, there remains a gap between the UAE legislation concerning the rights of persons with disabilities and operating practices related to provision for SWVI in the UAE higher education sector. Additionally, Federal Law No. (29) has neither strong implementation measures, nor effective compliance mechanisms. It is important to have legislation to clarify the rights of persons with disabilities, but it is difficult to derive any tangible benefits from this law without clear implementation measures, compliance mechanisms, or clear policies to implement this law. For this reason, Federal Law No. (29) has not made any real changes in terms of accommodating SWVI in the selected higher education institutions in this study.

One of the possible main reasons leading to this situation is that people with disabilities, and also organisations for people with disabilities in the UAE, were not actively engaged or take substantial roles in the drafting and negotiation stages of the development of Federal Law No. (29). Alshamsi (2010) states:

Disability people’s organizations were not invited to become involved in the discussions and negotiations at the initial stages of the proposed law; they were instead sent copies of the draft bill and asked whether they would like to add any comments or suggestions. Thus, the Ministry studied various disability laws that had been introduced in neighbouring countries such as Kuwait and Saudi Arabia. However, it seems that disabled people's views were not valued during the negotiation stages of the law. (p. 314)

Although some universities in the UAE established a disability department a few years after the declaration of Federal Law No. (29), findings from this study show that the operations of these departments were not in line with the law. For example, interviews with the officers at the Ministry of Higher Education reveal that since the announcement of this law, no changes have been made in the educational policy of the Ministry of Higher Education regarding the rights of students with disabilities. Analysis of case study interviews in this research suggests that the movement to
accommodate students with disabilities in the UAE higher education institutions started for varying reasons. Firstly, there was the development of the awareness among educators about the use of the assistive technology devices for students with disabilities. Secondly, competition between universities in the UAE to create new services for their students started to include provisions for students with disabilities. Thirdly, most universities in the UAE have now sought to achieve international accreditation. Thus, they tried to follow the Western model in terms of the services they offer.

For that reason, Federal Law No. (29) of the Year 2006 appears to be more a documented reflection of prevailing social attitudes towards disability in the UAE, rather than a legal document clarifying the rights and additional needs for individuals with disabilities.

8.6 The adequacy of the resources available for universities in the UAE to accommodate SWVI

There is a paucity of literature focused on the resources that should be available for universities to accommodate students with disabilities. Investigating these resources would assist in addressing Research Question 5, which aims to highlight some strategies to help universities in the UAE to improve their services for SWVI. It will also help in answering the last of the three later developed research questions, which investigates the main challenges facing universities in the UAE in accommodating SWVI.

Analysis of the data in this study suggests that the main resources should be available for universities to accommodate SWVI include guidance for universities to develop a disability action plan, a special budget for students with disabilities, and experienced disability support staff.

A disability action plan is ‘a strategy for implementing and monitoring inclusive policies and practices for the benefit of people with disability. It is designed to alter any policies and practices that might result in discrimination against people with disability or their carers’ (Deakin University, 2011, p 3).

The case studies results indicate that none of the selected universities in the UAE had a written action plan for students with disabilities during the period this study was conducted. Only UAEU was working to deliver a new policy for these students. This policy was delivered in 2012. Nevertheless, interviews with the officers at UAEU
indicate that UAEU did not receive enough guidance when developing this policy. For instance, Deakin University in Australia refers to seven relevant laws, standards and guidelines in its action plan for students with disabilities, while UAEU only referred to Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE. This law does not explain what kind of reasonable accommodations are needed for students with disabilities in higher education and it does not contain any real guidance for universities to develop an action plan for students with disabilities (Federal Law No (29), 2006). Also, the Ministry of Higher Education officers’ interview responses suggest that the Ministry did not have any guidelines for universities related to the educational rights for students with disabilities, or related to the provision of required services and accommodations. The Ministry left this responsibility to individual universities. This situation makes the mission of developing a disability action plan for universities very challenging due to a lack of clear supportive guidance.

Another significant resource the universities did not have access to across the case studies was a special budget for students with disabilities. The interviews with the officers at the disability departments at UAEU and ZU indicated that there was no special budget for students with disabilities in the financial strategic plans at these universities. One of the main reasons for this was that the disability departments were established after the beginning of the financial year, and the cost of establishing a disability department was not included in these universities’ budgets.

Also, the disability departments at UAEU and ZU had not developed a long-term plan for their departments. Consequently, they did not attempt to estimate future costs of accommodating students with disabilities, such as the cost of purchasing assistive technology devices, the costs of employing an increasing number of experienced support staff, and finally, estimating the future enrolment numbers of students with disabilities. Without this information, approximating the cost of accommodating students with disabilities will remain a challenge for these universities, especially as each government university has its own budget, which is unrelated to the Ministry of Higher Education budget. Therefore, government universities need to include a budget for students with disabilities before delivering their financial plans to the Ministry of Finance.

Moreover, when government universities established their disability departments in the UAE in 2010, these universities were working to develop new research activities,
and to increase the capacity of their undergraduate programs. However, their government sourced funding did not increase to cover these educational programs. As a consequence, the funding dilemma these universities faced made it difficult to fund new projects such as disability departments through their own resources. For this reason, the disability departments at all these universities relied on donations to establish an assistive technology room. In contrast, some private universities such as UOS were funded through the local government of their Emirates. This funding was limited compared to the overall budget allocated to the government universities (Burden-Leahy, 2009). Therefore, establishing a disability department was more challenging for private universities like UOS compared to government universities such as UAEU and ZU.

The third resource universities need to implement supportive accommodation strategies for students with disabilities is experienced staff. Reed and Curtis (2012) point out that providing reasonable accommodation to SWVI at university requires expert delivery through assistive technology specialists, disability counsellors, research assistants, special librarians, lecture note takers, readers, and experienced officers within the university’s disability department. The case study results show that none of the selected universities employed experienced personnel within their general operating divisions or within their disability departments. The officers at these departments themselves needed assistance to learn how to accommodate the educational needs of the SWVI.

Analysis of the case studies suggests that the main reason for this result was that these universities did not have any written plan for their disability departments before establishing these departments. They did not know the kind of expertise that would be required, or the types of accommodation that should be provided. Consequently, they did not hire experienced personnel with previous experience in providing reasonable accommodation to students with disabilities. Additionally, accommodating students with disabilities in higher education is still a very new project in the UAE, and the country still does not have any local expertise in this area.

Providing access to higher education to students with disabilities cannot be effective at any university without having clear policies, a special budget, and experienced staff. These three requirements complement each other and are intrinsically dependent upon each other. It is difficult to implement a disability budget without a
clear policy. Similarly, a disability budget without experienced personnel is worthless.

8.7 Chapter summary

The case study analyses presented in this chapter identified six main challenges facing SWVI in their attempts to obtain the reasonable accommodation required for their higher education in the UAE. The same challenges identified are also facing universities in the UAE in providing accessible physical, educational and social environments to SWVI. These six main challenges provide substantive conclusions that can be drawn from the case study results and that represent possible responses to the research questions. To reiterate, these challenges were embedded in:

1. Educational challenges (accessing information, teaching practice, and classroom accommodation);
2. Everyday on-campus barriers (accessing the physical environment, access to university facilities, and the adequacy of the disability services);
3. Social challenges (cultural and attitudinal barriers among university students, lecturers and educators);
4. Personal challenges (the level of vision loss, personal health issues, multiple disability states, and the level of independence);
5. Limitations in the supportive legislation; and
6. A lack of resources available for universities to accommodate the SWVI.

In the next chapter, further analysis will be presented as responses to the research questions. Additionally, detailed recommendations will be offered to universities and some other stakeholders to improve the quality of provision for SWVI in the UAE higher education system.
Chapter Nine
Conclusions and recommendations

9.1 Introduction

This study aimed to investigate the daily obstacles facing the SWVI in the UAE higher education system through the lived experience of these students, including myself as a SWVI. It also highlighted the main challenges facing the lecturers and the university staff in providing these students with reasonable accommodation for their studies. The study researched the level of accessibility for the SWVI in the physical, educational and social environments at three selected universities in the UAE. The study also explored variations in the quality of provision for SWVI between the case studies conducted for this research. Furthermore, the study investigated inconsistencies between Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and the actual provision for SWVI in higher education. Finally, the study aimed to provide universities in the UAE with some recommendations to improve their disability services for SWVI.

Qualitative research methods were used to collect and analyse data for this research. Four case studies were conducted. The first case study was the author’s personal autobiographical account as a SWVI. The other three case studies were conducted at different universities in the Emirates: the United Arab Emirates University (UAEU), Zayed University (ZU), and the University of Sharjah (UOS). Triangulation methods were implemented to collect and analyse the data for this research. Interviews, observations and documentary evidence were used to generate data from the case studies. Additionally, outcomes from the case studies, evidence from the literature of the field and documentary analysis were employed in arriving at this study’s results.

Fifty-six participants took part in this study (including the author): 24 SWVI, 18 lecturers, and seven university staff from UAEU, ZU and UOS. In addition, six officers participated from different organisations: the Ministry of Higher Education; the Ministry of Education; and some organisations offering support to the SWVI such as Tamkeen, Zayed Higher Organization for Humanitarian Care and Special Needs, and Nattiq Technologies Company.
This chapter presents the conclusions and recommendations of this study. Firstly, the study’s key research questions will be reiterated, then the outcomes of the study will be identified as key conclusions that are understood to be responsive to the research questions. The next section presents a set of recommendations. A discussion on the implications of the study findings for research stakeholders follows the recommendations. From this, the chapter concludes with suggested future research directions, and identification of the study’s possible limitations.

9.2 The study’s key questions

This study aimed to respond to the following five research questions:

1. What are the main challenges facing SWVI in higher education sector in the UAE?
2. In what sense does the provision in UAE higher education institutions meet the special needs of SWVI?
3. What is the variation in the quality of provision for SWVI amongst the case studies conducted for this research?
4. What are the inconsistencies between Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE, and actual provision for SWVI in higher education?
5. How could universities in the UAE improve their provision for SWVI?

9.3 Conclusions of investigating the research questions

In the following sections, each research question will be addressed through the analysis and outcomes of the four case studies conducted for this research.

9.3.1 The main challenges facing SWVI in the UAE higher education sector

The analysis of the SWVI’s experiences reported in this research indicates that the SWVI faced different types of challenges in their studies at the selected UAE universities. These challenges included deficiencies in the students’ preparation for higher education during their primary and secondary schooling, difficulties adjusting to university life in the first year at university, challenges in moving independently and safely at the university campuses, challenges in accessing information at university; barriers to gaining entry into some course majors, difficulties in studying
specific subjects, insufficient classroom accommodation and limited modification and accommodation for exams.

9.3.2 The gap between the provision for SWVI among the case studies, and the actual needs for the SWVI

The second research question in this research investigates in what sense does the provision in UAE higher education institutions meet the special needs of SWVI. Analysis of the outcomes from the case studies shows that there was a lack of accessibility measures for SWVI at the three selected universities in the physical environments, as well as insufficient access to information such as course materials, the university website and the library. Moreover, most of the SWVI experienced different types of social and attitudinal barriers at their universities, especially from some sighted students and some lecturers. Finally, the lecturers who took part in this study were not able to receive sufficient support from their universities to accommodate their SWVI. As a result, these lecturers struggled to provide the SWVI with the reasonable accommodation they needed in their classes. Generally, the SWVI across the case studies found the physical, educational and social environments at their universities not fully accessible. Consequently, the level of provision for SWVI at each case study university did not meet the actual needs of the SWVI.

9.3.3 Variation in the quality of provision for SWVI amongst the case studies

Although the analysis of the case study data shows that the participating SWVI at the three case study universities in the UAE faced similar challenges, outcomes of the research identified variations in the quality of provision for SWVI. For example, the analysis of the students’ everyday university experiences suggests that of the three case studies, UAEU’s physical environment seemed the most inaccessible, while ZU’s physical environment appeared the most accessible. However, UAEU was the only university to have a supportive educational policy for students with disabilities; neither of the other two universities had any policy for such students. Additionally, the analysis of the students’ experiences indicates that although the SWVI at UAEU and UOS were facing similar difficulties in accessing information and obtaining appropriate and adequate provision for exams, UAEU tried to make some effort to accommodate the SWVI by establishing a disability department, while it appeared that UOS did not have any initiatives in place to accommodate these students. By
contrast, over the period in which this study was conducted, ZU provided its one and only SWVI with the reasonable accommodation she needed.

Data from the interviews of the officers at the Ministry of Higher Education indicate that the Ministry of Higher Education in the UAE did not have a special department for students with disabilities, nor an educational policy for such students. Additionally, analysis of the results of the case studies in this research reveals that there was no single department with responsibility for supervising the disability services at all universities in the UAE. The Ministry of Higher Education left this responsibility to be considered by individual universities; however, there were no mandatory policies to compel universities to provide equitable access to students with disabilities.

9.3.4 Inconsistencies between Federal Law No. (29) Concerning the rights of Persons with Disabilities in the UAE, and actual provision for SWVI in higher education

Results of this study indicate that the UAE legislation concerning the rights of persons with disabilities does not cover all the educational needs for SWVI in higher education. For example, definitions, educational rights and accessibility articles in Federal Law No. (29) do not adequately address all the aspects of the lived experience of SWVI, or go far enough to protect their rights to gain equal access to education. Nevertheless, this law stresses the right of students with disabilities to have equal educational opportunities in all educational institutions, an accessible academic curriculum, access to assistive technology devices, and an accessible educational environment. The analysis of the students’ experiences reveal that there were significant limitations in the availability of these resources for the SWVI among the case studies conducted for this research.

9.3.5 Recommendations for universities in the UAE to improve their provision for SWVI

The fifth research question asked, ‘How could universities in the UAE improve their provision for SWVI? The key findings from the case studies in this research indicate that the case study universities were limited in their attempts to provide an effective mechanism to accommodate the SWVI for three possible reasons: first, two of the universities did not have a disability action plan for students with disabilities. Second, the universities described in these case studies did not have an official
budget to accommodate students with disabilities; thus making it difficult for the disability departments at these universities to accommodate these students. Third, the universities did not have experienced staff who could provide SWVI with the reasonable accommodation they required for their studies. Based on these results, some detailed recommendations will be suggested to UAE universities later in this chapter.

9.4. Key results of the case studies

Analysis of the four case studies conducted for this research suggests six main barriers faced by SWVI in accessing higher education in the UAE. These barriers are:

9.4.1 Issues around the adequacy of training for SWVI at primary and secondary school

Analysis of the case studies’ results in this research shows that most of the SWVI who took part in this study did not receive sufficient training in Braille, mobility, the use of assistive technology, and life and social development skills. The case studies’ results indicate that a large number of the SWVI participating in this study could not develop these skills before moving to university. This presented a main barrier for these students during their university studies.

9.4.2 Limitations in the accessibility measures implemented in the universities’ physical, educational and social environments for SWVI

Analysis of this outcome shows that the three selected universities did not consider the special needs of SWVI in the physical environments such as the elevators, the stairs, the university layout area and the buildings’ design. Moreover, the SWVI could not access different types of information available for other university students such as that found in course materials, textbooks, university websites and libraries. Finally, the SWVI faced different types of attitudinal and social barriers, which made it difficult for them to have equal access to the social environment at their universities.
9.4.3 Cultural and attitudinal barriers faced by the SWVI in UAE higher education institutions

Discussion of this result shows that the SWVI across the case studies faced different types of negative attitudes from some university students, some lectures and also some university staff. Analysis of these findings suggests that this was a reflection of the negative social attitudes towards disability in the UAE generally.

9.4.4 Personal challenges faced by SWVI

Analysis of this result shows that these personal challenges related to severity of vision loss, deteriorating eye conditions, health issues, multiple disability states, and the SWVIs’ level of self-reliance and self-advocacy.

9.4.5 Limitations in the supportive legislation concerning the rights of persons with disabilities in the UAE

Analysis of Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE shows that this law does not adequately address the special needs of SWVI in the definitions of the terms included in this law, the educational rights of persons with disabilities, the accessibility measures in the physical, educational and social environments and also the implementation measures of the same law. Consequently, outcomes of this study indicate that this law as legislated, is yet to bring about any real changes in the adequate accommodation of SWVI in higher education in the UAE.

9.4.6 The apparent lack of resources available for universities to accommodate SWVI

Discussion of this result indicates that these resources include: clear guidance for universities to develop a disability action plan, a special budget, and experienced staff. Investigations of this result could help universities in the UAE to improve their support services for SWVI.

9.5 Recommendations

In light of these challenges, the following set of recommendations is suggested. These recommendations are directed to the following stakeholder groups in the UAE: the Ministry of Education, the Ministry of Higher Education, policy makers in Ministry of Social Affairs, universities, and disability departments at each university.
9.5.1 The Ministry of Education

Provide training for SWVI and specialist staff working with these students at their primary and secondary schools in Braille literacy, orientation and mobility, personal and social development skills, and the use of assistive technology.

9.5.2 The Ministry of Higher Education in the UAE

1. Establish a disability department at the Ministry of Higher Education in the UAE. This department should develop and make mandatory the implementation of a broadly based inclusive policy for students with disabilities at all universities in the UAE. This Ministry should then have the responsibility to supervise and evaluate disability services at these universities.

2. Develop a national educational policy for students with disabilities. This policy should include clear guidelines in relation to accessibility measures within the physical environment, accessing the university’s websites, online resources, libraries, course materials, and the educational environment. The policy also needs to address the expectations of all university staff to accommodate students with disabilities, and to protect students with disabilities from any kind of discrimination.

9.5.3 Policy makers at the Ministry of Social Affairs in the UAE

1. Engage people with disabilities, disability organisations; the disability staff at the Ministry of Education, the Ministry of Higher Education, and relevant university support staff in a review of Federal Law No. (29).

2. Clarify the differences between the Ministry of Education’s and the Ministry of Higher Education’s responsibilities for educating students with disabilities as stipulated in Federal Law No. (29).

3. Ensure that Federal Law No. (29) guarantees the right of persons with disabilities to be provided with reasonable accommodation to access the needed services: buildings; all forms of transportation; all educational institutions’ indoor and outdoor facilities; and reasonable access to information including Internet websites, libraries, published books and materials.

4. Create a compliance mechanism to implement Federal Law No. (29). For example by establishing an independent organisation to guarantee the implementation of the law, and also by specifying reasonable sanctions
against those who might discriminate against individuals with disabilities, or who hinder people with disabilities exercising of their legal rights.

9.5.4 Universities

1. Consider the special needs of SWVI in the physical environment when designing university buildings. For example, university buildings should be close to each other. Stairs should be provided with handrails with the leading edge of all steps marked in a contrasting colour. Additionally, elevators should be provided with audible announcements and Braille on the buttons, and the buildings and room numbers should be written in large fonts and contrasting colours.

2. Provide SWVI with easy access to different sources of information at university that are available for other university students: an accessible university website; adjustment for students’ study materials (Braille, large print, audio or electronic formats); and adequate provision in the library (special room with assistive technology, research assistant, a reader, staff assistance and adjustment for the references).

3. Develop a disability action plan for students with disabilities at all universities in the UAE. This policy should be based not only on the needs of the existing students with disabilities, but also the needs of the future students. This policy should be introduced to all faculties at the university. This policy should: provide a definition of disability and each category attached to this term; have clearly stated policy aims; explain different types of disability discrimination and how these might arise; identify the services available to students with disabilities; and explain the implementation, monitoring and review processes for this policy.

4. Include an estimated budget for students with disabilities in the university financial plan that will include cost items for staff working with students with disabilities, for the assistive technology devices, and for providing access, and that takes into account the estimated future enrolment numbers of students.

5. Employ local specialists in different disability areas (learning difficulties; vision; hearing; physical; speech; and mobility impairments) by including these specialisations as a major in the special education departments at different universities in the UAE.
6. Design all university services, facilities and buildings following universal
design standards to accommodate the needs of people with different types of
disabilities and abilities (learning difficulties; vision; hearing; physical;
speech; and mobility impairments).

9.5.5 Disability departments at each university

1. Provide SWVI with mobility training on campus in how to move safely and
independently to frequently used places at their campus such as their class
rooms, the library, the disability centre, different administration departments,
the medical centre, the food courts and their lecturers’ offices. Additionally,
short mobility training should be offered as an option at the beginning of each
semester to train the SWVI in how to get to their new classes, and to explain
any changes that have occurred to the physical environment at their campus.

2. Provide SWVI with appropriate examination modifications and
accommodations such as extra time depending in the individual needs of each
student, a private room, accessible examination materials, modification of
questions based on images, a test writer and appropriate assistive technology
as needed.

3. Provide training for the lecturers who teach specific subjects such as English,
Mathematics, Computer, Statistics, Business, Geography and Science. This
study’s results show that lecturers who teach these subjects struggle to
explain information related to images to the SWVI. Further training focused
on the use of software and computer programs designed for the visually
impaired is recommended for lecturers who teach compulsory Computer
subjects.

4. Provide SWVI with the following accommodation for their classes: access to
audio taped lectures; a first row seat in the classroom; a personal note taker,
and accessible materials to enable SWVI to participate in class activities.

5. Organise awareness campaigns about vision impairment as a disability during
orientation days to raise the level of awareness among university community
about the SWVIs’ special needs.

6. Provide lecturers who teach SWVI with a clear report about the special needs
of these students and the adjustments they need for their studies. Moreover,
the lecturers should be engaged in the development and implementation of
disability support plans for the SWVI.
7. Engage sighted students in the universities’ disability support services for the SWVI such as assisting in the library, taking lecture notes, adjusting materials for SWVI, and helping the SWVI in their assignments.

9.6 Implications of the study results and recommendations

Findings from this research show that the creation of inclusive educational environments for SWVI in the UAE higher education sector requires cooperation between the following stakeholder groups:

1. The Ministry of Education
2. The Ministry of Higher Education
3. Policy makers in Ministry of Social Affairs
4. Universities
5. Disability Departments at each university

The study findings indicate that there was a lack of cooperation between these different groups, which led to the absence of one inclusive educational plan for SWVI in the UAE. However, the findings may help each stakeholder group to offer better provision for SWVI. For example, the study highlighted and analysed barriers facing the SWVI during their previous school studies, such as a lack of Braille and mobility training. Such findings may help the Ministry of Education to offer better training to the SWVI at the school level.

The study also offered insights into the everyday challenges faced by the SWVI, their lecturers and staff working at the disability department at the three universities. Such insights can help the disability department at each university to identify how reasonable accommodation and training can be provided to the SWVI during their university studies. The same information also can help universities in the UAE to design disability action plans, and to create inclusive physical, educational and social environments for SWVI.

In addition, the analysis of the case studies indicates the kind of support that the selected universities needed from the Ministry of Higher Education in the UAE. Such an analysis can help the Ministry of Higher Education in the UAE to create a single national educational policy for students with disabilities, and to ensure that all universities in the UAE offer equal access to higher education to individuals with disabilities.
Finally, the study identified limitations in Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities, and actual practice for the SWVI at three universities in the UAE. This information may help decision makers at the Ministry of Social Affairs to review and develop the education related articles in Federal Law No. (29) to cover the special needs of SWVI.

9.7 **Limitations of the study**

This study investigated the experiences of the SWVI at three different universities in the UAE, as well as the personal experiences of the author who is a vision impaired person. Hence, claims from the study findings are limited to what emerged from a limited number of case studies. The study was conducted at only three of over 40 universities and colleges in the UAE. Moreover, the study was conducted over a short time period. For example, the data collected at UAEU and UOS were gathered during the academic year 2010/2011, while Zayed University case study was conducted over two academic years. This time frame did not allow further investigation of the SWVI’s experiences or provide enough time to follow the development of disability services at these universities.

9.8 **Future research directions**

It is recommended that future research be focused on the experiences of students who have other types of disabilities in the UAE higher education institutions: hearing loss; physical disabilities; cognitive impairment; and learning difficulties. This research could investigate UAE universities’ capabilities to offer an inclusive education to students with different types disabilities and make appropriate recommendations for practice at UAE universities. It is also recommended that future research should follow up the implementation of these recommendations to investigate how they have improved, or not, access to higher education for SWVI.

9.9 **Chapter summary**

This chapter presented the thesis’ conclusions and the recommendations. The chapter began with a brief introduction and then reiterated the study’s research questions. From this, key conclusions and recommendations were discussed, implications of the study results for the stakeholders were identified and recommendations proposed. To conclude, the limitations of the study were addressed, and future research directions were suggested.
The overall findings suggest that the challenges identified can be practically addressed through the greater involvement of and cooperation and collaboration among the five key stakeholders: the Ministry of Education; the Ministry of Higher Education; universities; the disability department at each university; and the Ministry of Social Affairs. The study suggested some recommendations to assist each stakeholder to improve their services for SWVI. It is recommended that future research should investigate the experiences of students who have other types of disabilities in the UAE higher education institutions.

On a final personal note, conducting this research has been inspiring and fulfilling. I had the opportunity to have open conversations with students with vision impairments, lecturers, university support staff at UAEU, ZU and UOS, and also, officers from different organisations in the UAE. Being in contact with these different groups gave me an insight into the challenges, experiences and the needs of each group in the education of SWVI at the university level. It has been a privilege to conduct this study as it is reflective of my own experience as a student with vision impairment, and has given me a great opportunity to provide a 'voice' for SWVI in academic research. As a person with vision impairment living in a traditional growing Arabic country, I faced innumerable significant challenges that I had to engage with and overcome. I was surprised to find that many of the SWVI who took part in this study were facing similar barriers to those I experienced during my undergraduate study. I hope that the results, conclusions and recommendations reached in this thesis will make a difference for students with vision impairments and that they will illuminate and facilitate the path for future students facing similar circumstances.
References


Kyburz-Graber, R. (2004). Does case-study methodology lack rigour? the need for quality criteria for sound case-study research, as illustrated by a recent case in secondary and higher education. Environmental Education Research, 10(1), 53-64.


Appendix 1
Interview guide for SWVI

A. Interviewee profile

1. What university do you attend?
2. In what faculty do you study?
3. What is your area of specialization?
4. What is your gender?
5. How old are you?
6. When did you begin your study at this university?
7. Can you describe your visual impairment?

B. Required training

1. Have you received previous training before starting your university in:
   a. Braille reading and writing.
   b. Orientation and Mobility.
   c. Using special technology for visually impaired?
2. Can you comment on your skills in these three areas?
3. Is your university offering any kind of special training for SWVI? If yes what are they?

C. Mobility matters

1. Does the physical environment at your university help you to move independently around campus? Please explain.
2. What are the mobility difficulties you are facing when you are walking around your campus?
3. What are the mobility challenges you are facing, in the following places: the elevators, the stairs, the classrooms, the university’s cafeterias and restaurants?
4. Would you like to comment on any other specific areas at your university?
5. How do you manage your mobility on your campus?
6. How do you travel from your accommodation to your university?

D. Students’ awareness

1. What are the main services offered to the SWVI at your university?
2. Who is the responsible person at your university to cover the special needs of the SWVI?
3. Do you think that your university treats you equally in comparison to your sighted counterparts?
4. What do you know about Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE?

E. The daily challenges

1. What are the main difficulties facing you in your lectures or classes?
2. What are the main difficulties facing you in your relationships with your lecturers?
3. What are the main challenges facing you in your relationships with the university staff?
4. What are the challenges you are facing in your relationships with your sighted students and classmates?
5. How do you feel about asking for the help if you need it from:
   a. Your friends;
   b. Your lecturers;
   c. The university’s administrators;
   d. Your classmates;
   e. Your family members, and
   f. The university staff?
6. What are the main challenges you are facing in using the library?
7. What are the challenges your are facing in doing your assignments?
8. What are the challenges you are facing in doing your examinations?
9. Do you have special difficulties in studying specific compulsory units? What are they?
10. What are the main challenges you are facing in your study area?
11. Do you find any difficulties in accessing your university’s web site? If yes, what are these difficulties?
12. What kind of technology are you using?
13. To what extent is the provision offered at your university meets your special needs?
14. In your opinion, how can your university solve the challenges that you are facing in your university studies?
F. The provision offered at the university

1. Why did you choose this university to study?
2. Why did you choose to study your major?
3. What types of adjustments does your university offer you for your study materials?
4. What kind of support do you receive from your family members?
5. Have you contacted any organizations to seek for further assistance for your study, or to request financial support? If yes, which organization/s have you contacted and what kind of support have you asked for?
6. What were your expectations about the support services at your university, and what have you found the reality?
Appendix 2
Interview guide for lectures

A. Interviewee profile

1. What University do you work at?
2. In what Faculty do you work?
3. What is your area of specialization?
4. What is your gender?
5. What is your position?
6. Can you describe your educational experiences?

B. Experience in educating SWVI

1. How many SWVI have you taught during your career?
2. Which kind of visual impairments did they have?
3. What is your knowledge of the support services that SWVI need at the higher education level?
4. Have you received any training or explanation in how to teach students with vision impairments?

C. Awareness level

1. Do you think that having a SWVI in your class can put more pressure on you as a lecturer? Why? Why not?
2. What do you think about the educational abilities of SWVI in comparison to sighted students?
3. What is your idea about Federal Law No. (29) Concerning the rights of Persons with Disabilities in the UAE?

D. Provision offered by the lecturer

1. What kind of provision do you offer to your SWVI generally?
2. How do you modify your lectures to cover the special needs of SWVI?
3. What type of support does your university offer you as a lecturer teaching SWVI?
4. How can you explain visual information to your SWVI?
5. What kind of accommodation and modification do you offer your SWVI?
6. In which situations do you treat SWVI differently? How and why?
7. Do you provide SWVI with a ‘soft copy’ of your lecture notes or your lecture materials?

E. Challenges in educating SWVI

1. What are the main challenges that you are facing in educating SWVI?
2. What do you think are the main challenges that faced by the SWVI at your university?
3. How do you evaluate the support services provided for SWVI at your university?
4. How do you think your university can improve the level of provision for SWVI?
Appendix 3

Interview guide for university staff/officers

A. Interviewee profile

1. At which institute do you work?
2. What is your gender?
3. What is your position?
4. How many years’ experience do you have in this area?

B. Educational Policy for SWVI

1. What is the educational policy for students with disabilities generally at your institution/ministry?
2. What is your knowledge of Federal Law No. (29) of the Year 2006 Concerning the rights of Persons with Disabilities in the UAE?
3. What is the effect of this law on educational policy relating to SWVI in the UAE higher education sector?
4. Is there a disability department at your university/ministry?
5. What kind of financial support does the Ministry of Higher Education offer students with disabilities?
6. Is it compulsory for universities in the UAE to accommodate students with disabilities?
7. What is the future plan at your institution to support SWVI?
8. How do you evaluate the educational policy for SWVI in the UAE higher education system?
9. How do you evaluate the level of provision for SWVI in the UAE higher education system?

C. Recommendations

1. What do you think the Ministry of Higher Education should do to improve the support services for SWVI?
2. What do you think universities in the UAE need to do to improve the support services for SWVI?