

ACADEMIC AND CAMPUS EXPERIENCES OF COLLEGE STUDENTS WITH VISUAL
IMPAIRMENTS IN VIETNAM: A MULTIPLE CASE-BASED STUDY

BY

TUYEN THI THANH BUI

DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Social Work
in the Graduate College of the
University of Illinois Urbana-Champaign, 2021

Urbana, Illinois

Doctoral Committee:

Professor Teresa Ostler, Chair
Associate Professor Chi-Fang Wu
Associate Professor Tara Powell
Professor Mary Collins, Boston University
Professor Meghan Burke
Clinical Assistant Professor Rooshey Hasnain, University of Illinois Chicago

ABSTRACT

Background and Purpose: Education plays an integral part in the lives of individuals, including people with visual impairments. Especially, participation in higher education will increase employment opportunities for visually impaired youth, and as a result, they can have their own income, live independently, and integrate into mainstream society. Out of the 2 million people in Vietnam with visual impairments, only a small number of students attend school, and a few attend colleges. Furthermore, literature shows they encounter countless barriers in higher education compared to their sighted counterparts. This study is the first to explore the experiences of students with visual impairments (SWVIs) in higher education in Vietnam.

Methods: This multiple case-based study drew on in-depth interviews with 30 college students with visual impairments across Vietnam aged from 21 to 32 (average age of 25) on their academic and campus experiences of participation in college, and on extensive field notes and informal observations of participants. Of the student participants, 16 were males and 14 were females. The study also included 10 faculty and administrators (6 males, 4 females) aged from 32 to 70 (average of 47) on their experiences of instructing SWVIs. SWVIs were from 17 colleges and universities, and faculty were from 9 colleges and universities. All the participants were from colleges in three main locations of Vietnam, namely Hanoi, Central Vietnam, and Ho Chi Minh City, and completed 60 to 90-minute-long interviews with the author. Thematic-style analyses were undertaken to identify dominant and emergent themes and meaning units.

Results: Findings from data analysis revealed several influencers from multiple systems such as family, school, and community on higher education of SWVIs. According to the social approach of the disability theory, institutional, environmental, and attitudinal barriers prevented SWVIs from achieving academic success. In addition, female SWVIs in Vietnam faced more challenges

in higher education than men due to social and cultural barriers to women. Findings from interviews with faculty corroborated findings from interviews with SWVIs that a lack of institutional disability policy, inaccessibility, and a lack of disability awareness were key barriers in higher education of SWVIs in Vietnam. Finally, participants recommended removing institutional, environmental, and attitudinal barriers to improve academic outcomes of SWVIs.

Conclusions and Implications: The study underscores important institutional, environmental, and attitudinal barriers to higher education of SWVIs in Vietnam and suggests several measures to remove the barriers. Solutions include developing a comprehensive disability policy for colleges and universities that clearly describes their responsibilities to provide accommodation to students with disabilities and SWVIs. In addition, each college should have an office for disability services that links SWVIs with needed services. Furthermore, faculty, staff, and students should be trained on disability so that they respect the rights of people with disabilities and avoid discrimination against them. Besides, higher education institutions should pay attention to gender-based sensitive services to meet the special needs of female SWVIs. Finally, colleges and universities should apply the universal design to improve the accessibility of their campus including facilities, library, learning materials, and transportation.

DEDICATION

I want to dedicate this dissertation to my mother, Hoa Pham and my father, Hoa Bui who always support me on my academic journey. They inspired me to listen to my heart and pursue the career path that I have the whole passion for. I also want to thank my sister, Tam Bui and my two brothers, Tan Bui and Thanh Bui who helped me with the logistics for data collection of this dissertation study.

ACKNOWLEDGEMENT

When writing this dissertation, I am thinking about several people whom I met in my life. Their direct or indirect support and encouragement helped me through happiness as well as rocky times in my educational journey and gave me the opportunity to complete my dissertation.

First, I would like to send my deepest appreciation to my parents, my sister, and my brothers for their support of me on my long educational journey. I would like to thank my mother for her unconditional love and care for me. Her generously caring for people with difficult circumstances motivated me to enter the social work profession and focused my research on students with disabilities. I also would like to send my sincere thanks to my grandma who passed away two years ago for her curiosity about my lifelong studying career. I also deeply thank my aunt, uncle, and cousins for their remote support of my education.

Next, express my wholehearted thanks to my Advisor and Committee Chair, Dr. Teresa Ostler, for her passionate mentoring, guiding, supervising, motivating, and supporting me through countless obstacles on my advanced education journey. She patiently instructed me from the first day I entered the program when my experience with research was almost zero. Uncountable times Dr. Ostler spent to walk me through every step in the Ph.D. journey, and build my research, funding seeking and academic skills. She always has been a tremendous source of support that I can count on. Without her support and motivation, I would not be able to complete this dissertation. Especially, Dr. Ostler is the one who provided me the seeding fund for my data collection, and from that, I was able to train students with visual impairment on transcribing services and established a non-profit self-help group ScriVi to help students with visual impairment generate income from transcribing audio files for researchers and journalists.

I also would like to thank students with visual impairment in Vietnam who trusted me and volunteered to participate in my dissertation study. Without their participation, I would not have been able to complete this dissertation. I also would like to send my thanks to Sister Hoa and Nhat Hong shelter for the blind, Mr. Nguyen Quoc Phong and Thien An shelter for the blind, and Ms. Ha Thanh Van and Nguyen Dinh Chieu School for the blind for allowing me to visit their centers, observe and talk to the agencies leaders.

Next, I would like to express my heartfelt thanks to the members of my Dissertation Committee, Dr. Chi-Fang Wu, Dr. Tara Powell, Dr. Mary Collins, Dr. Meaghan Burke, and Dr. Rooshey Hasnain for their valuable feedback so that I can improve my dissertation study. I would like to thank Dr. Chi-Fang Wu for her multiple support as a Ph.D. Student Director and a Dissertation Committee member. My sincere thanks go to Dr. Tara Powell for her willingness to guide, support, and accompany me during the first few years at UIUC. I also want to send my deepest thanks to Dr. Mary Collins for inspiring me to begin my Ph.D. journey. If I did not have a chance to meet you, I might not think of getting a Ph.D. degree. You are always a role model for me, Dr. Collins. My thanks also go to Dr. Meaghan Burke for her support and guiding me in working with people with disabilities through the IL LEND program and my dissertation. I would also like to express my deepest appreciation to Dr. Rooshey Hasnain for continuing to engage me in research projects with people with disabilities.

Furthermore, I would like to thank the School of Social Work of University of Illinois at Urbana-Champaign for all the support I received. My thanks especially go to Dean Steve Anderson for his dissertation scholarship that I was honorably a receiver for the FY 2020-2021. Together with the fund from the School of Social Work, UIUC the scholarship helped to collect data, transcribe the audio recordings, and translate the transcripts for my dissertation. I also

would like to send my thanks to Associate Dean Min Zhan for the good support she gave me. My thanks also go to Dr. Kevin Tan, Dr. Janet Liechty, Dr. Chris Larrison, Dr. Karen Tabb, Dr. Janet Cater-Black, former Dean Wynne Korr, former Associate Dean Barry Ackerson, Cheryl Street, Sandy Bruce, Rachelle Nickey, Tony Hillen, Amy Frederick, Adam Wright, Amy Hiles, and all faculty and staff of School of Social Work for the support I received.

I also would like to send my heartfelt thanks to the Center for Prevention Research and Development (CPRD) for allowing me to have a chance to practice my research skills. Especially, I would like to thank Dr. Doug Smith – Director, Nancy Flower – Research Program Director, Dawn Carpenter and Jo Pauly - my two supervisors at CPRD, Gail Title, Viviana Deltas, Crystal Reinhart, Cindy Heck, Barbara Lancaster, and Sherri Rudicil for their support.

I want to send my deepest thanks to Grace Mishler and her friends and Pastors at the Church of the Brethren in Polo, IL and Goshen, IN for following every step in my Ph.D. journey and praying for me. She supported me and connected me with her former assistant - Cat Tien so that Cat Tien helped me to translate one of the faculty interview transcripts.

My deepest thanks also go to Dr. Minh Kaufmann, Director of Center for Educational Exchange with Vietnam (CEEVN), Nguyen Xuan Huong, Nguyen Thi Thanh Binh, Nguyen Thi Thuc Oanh, and Ngo Thi Thanh Huyen for placing the first stones on my Master's degree. Without the Master's degree, I would not have had the opportunity to start the Ph.D. journey.

My appreciation also goes to many friends who frequently show their support to me. My friends in philanthropic activities: Dr. Jack and Jean Lindsey, Jan and Frank Tapy, Dr. Tom and Nancy Cline, Dr. Gary and Susan Studebaker, Charles Cable. My friends in the Ph.D. program include Dr. Tumani Malinga, Dr. Sung-wan Kang, Dr. Emily Lux, Dr. Shuo Xu, Esther Shin, Dr. Najat Qushua, Kang Wang, Gaurav Sinha, Hyun Kim, Eunjee Song, Allison Carrington, Nicole

Cantoni, Brandie Bentley, Jenifer Evans, Vanessa Parker. Other friends include Jocelyn Benavides, Nicole Betteridge, Barbara Shelton, Barry Bombal, Nguyen Kim Thanh, Ho Ngoc Khai, Thanh Doan, and Nhi Chern.

I also want to send my appreciation to my former deans and colleagues at the Department of Social Work, University of Social Sciences and Humanities (USSH), Vietnam National University-Ho Chi Minh City, Dr. Le Hai Thanh, Dr. Do Hanh Nga, and Dr. Cao Thi Huyen Nga, Dr. Nguyen Thi Hong Xoan and Nguyen Thi Hong at Department of Sociology, Dr. Xuan Thuy Nguyen from Carleton University for their support and encouragement.

TABLE OF CONTENTS

CHAPTER 1: INTRODUCTION	1
CHAPTER 2: LITERATURE REVIEW	13
CHAPTER 3: METHODOLOGY	42
CHAPTER 4: FINDINGS	61
CHAPTER 5: DISCUSSIONS, IMPLICATIONS, AND CONCLUSION.....	174
REFERENCES	190
APPENDIX A: ABBREVIATIONS	221
APPENDIX B: DEFINITION OF TERMINOLOGY	223
APPENDIX C: STUDENTS FLYER.....	225
APPENDIX D: INFORMED CONSENT FOR STUDENTS	226
APPENDIX E: FACULTY FLYER.....	229
APPENDIX F: FACULTY INFORMED CONSENT.....	230
APPENDIX G: INTERVIEW QUESTIONS	233
APPENDIX H: CODEBOOK.....	235
APPENDIX I: MATRIX FOR THEME-BASED ASSERTION.....	246
APPENDIX J: IRB APPROVAL	248
APPENDIX K: A SYNOPSIS OF EACH STUDENT PARTICIPANT	249
APPENDIX L: A SYNOPSIS OF EACH FACULTY PARTICIPANT	262

CHAPTER 1: INTRODUCTION

While access to assistive technology (AT) is a core element of accommodations for students with visual impairments (SWVIs) in developed countries, countless SWVIs have no access to AT in developing countries. When I was a lecturer at a university in Vietnam in 2013, I witnessed two faculty members complaining about Van, a student with visual impairment. One faculty member said that Van was so demanding because he requested an iPhone 4 from a service agency for people with disabilities. For the faculty member, the main function of a phone is making calls and texting, thus Van did not need to have an iPhone. For her, an iPhone was a luxury item that a student with visual impairments should not ask for. The faculty added that Van should try harder to overcome challenges and not request support from faculty and university because other SWVIs did not request that kind of support. In her opinion, if colleges met all requests from students with disabilities (SWDs), they would become dependent on support. Therefore, she wanted to let SWDs seek their way to survive in post-secondary institutions.

The story of Van illustrates the fact that SWVIs face several barriers in obtaining higher education in Vietnam. They lack access to AT that could improve their accessibility to learning materials. In addition, faculty seemed not to be willing to provide accommodations to SWVIs. It showed that there was a lack of training for faculty members on using assistive devices, thus faculty had negative attitudes on providing accommodation for SWVIs. The faculty in this story might not have known at the time that only iPhones had built-in accessible features that other phones did not have, and that an iPhone 4 was not the newest model of iPhones. This story propelled me to begin my study of barriers that SWVIs encounter to enable them to attend post-secondary education.

1.1. Background of the Problem

A high percentage of people are living with a visual impairment (VI) worldwide, thus it is a tremendous loss when they are excluded from mainstream society. The World Health Organization (WHO) estimated that approximately 285 million people globally reported having a VI in 2010, and over 89% of people with visual impairments (PWVIs) live in middle and low-income countries (Bourne et al., 2017; Dandona & Dandona, 2006b; Pascolini & Mariotti, 2012; WHO, 2012). South-East Asia (excluding China and India) is estimated to have the highest rate of VI, 48 persons per million in the population. However, less than a third of working-age adults with VI work for pay (Erickson, Lee, & von Schrader, 2012, 2018; Freeland, 2006; Kelly, 2013; Kirchner & Smith, 2005). PWVIs are excluded from the workforce due to the long historical segregation of abled- and disabled bodies (Oliver, 1996; Oliver & Barnes, 2012). Researchers estimate that the lack of productivity from this workforce could cost the world about three trillion US dollars to the economy (Gordois et al., 2012; Koberlein, Beifus, Schaffert, & Finger, 2013). In addition, employment exclusion negatively affects many aspects of the life of PWVIs such as financial, social, physical, emotional, and psychological well-being (Hall & Wilton, 2011; Lamichhane, 2012). Consequently, PWVIs have to depend on either their families or public welfare for their daily living and healthcare, creating a significant financial burden for families and society.

Access to quality education has been proved as an ultimate solution to help PWVIs become productive. Regardless of where they live, the higher education PWVIs obtain, the higher possibility they have for employment and for obtaining white-collar jobs (Lamichhane & Okubo, 2014; Shaw, Gold, & Wolffe, 2007). Providing equal educational opportunities for children and youth with visual impairment (C/YWVIs) does not only make them more

productive, but it is also a basic human right that is clearly stated in the Convention on the Rights of Persons with Disabilities (CRPD) (United Nations, 2006).

However, access to education is a momentous challenge for C/YWVIs, especially for those who live in developing countries. Studies show that merely 10% of children with disabilities including visually impaired children go to school in developing countries, and most of them only finish primary school. Very few students with visual impairment (SWVIs) complete high school and enroll in post-secondary school (Dineen, Bourne, Ali, Huq, & Johnson, 2003; Gilbert et al., 2008; UNICEF, 2011, 2013). Interestingly, a significant gender gap exists in the Global South. For example, in Nepal and Vietnam, men with VI are more likely than women with VI to have higher education and to be employed (Lamichhane & Okubo, 2014; UNFPA, 2011).

Research shows a strong relationship between accommodations and college success of SWDs in developed countries. American researchers indicate that student services namely distraction reduced testing, flexibility in due dates, alternative format, assistive technology, classroom assistants, and note-taking services are significantly associated with college graduation of SWDs (Pingry O'Neill, Markward, & French, 2012). Similarly, research also demonstrates that accommodations increase the GPA of SWDs (Kim & Lee, 2016). However, little is known about higher education as well as accommodations for SWDs in less-resourced countries. A search of the literature yields no empirical studies on post-secondary education of SWVIs in Vietnam and very few studies from resource-constrained countries.

1.2. Justification

Overall, literature on higher education of SWVIs has captured little systematic attention. Among the scarce literature in this area, most studies are from Western countries or for SWDs in

general (Kimball, Wells, Ostiguy, Manly, & Lauterbach, 2016; Parker & Pogrud, 2009; Simui, Kasonde-Ngandu, Cheyeka, Simwinga, & Ndhlovu, 2018). Research on higher education of SWVIs from Asia or developing countries is scarce. Studies, however, note an exclusive environment that SWVIs experience in both developed and developing countries.

Literature suggests that post-secondary education for SWVIs in developed countries is better than in developing countries, but SWVIs still face countless barriers. Most higher education institutions in the USA, the UK, and Canada mandate institutional policies to support SWDs, thus oftentimes there is a separate department or unit within their institutions to provide support services to SWDs (Hardman, Drew, & Egan, 2017a; Tinklin, Riddell, & Wilson, 2004). However, when SWVIs enter college, the level of accommodations they receive is not the same as what is provided in secondary and high school because, in college, students are no longer protected under educational laws for children. Post-secondary institutions can deny offering accommodations to SWVIs if they believe that those accommodations created an “undue” burden for them. In other words, if the institutions believe that they have to modify their programs to accommodate a SWVI or the adjustment would cost them significantly, they can reject providing accommodations that the SWVI requires without any legal responsibility.

Legally speaking, higher education institutions are required to provide “reasonable” accommodations to SWVIs. However, the term “reasonable” is vague and can be understood in many ways. Consequently, SWVIs in developed countries occasionally perceive that the services offered by post-secondary institutions do not meet their academic needs (Berry & Mellard, 2002; Eckes & Ochoa, 2005; Hewett, Douglas, McLinden, & Keil, 2017; Hill, 1996; Sachs & Schreuer, 2011; Sahlen & Lehmann, 2006).

Although considerable research has been devoted to higher education of SWVIs in

developed countries, less attention has been paid to the higher education of SWVIs in developing countries. Little research means a lack of attention of stakeholders to the education of SWVIs in developing countries. Among the scarce literature that exists on higher education of SWVIs in less-resourced countries, the majority of studies are from South Africa and India, and a few from Southeast Asian countries such as Singapore and Malaysia (Crosling, Cheng, & Lopes, 2017; Dawn, 2017; Kimball et al., 2016; Simui et al., 2018; Wong, 2014). Generally, these findings suggest that while most higher education institutions in developed countries have implemented national and institutional policies that mandate service provision for SWVIs, there is a lack of legislation on providing accommodations to SWVIs in developing countries (Simui et al., 2018). The scarcity of information on post-secondary education in resource-constrained countries corroborates that only a small percentage of SWVIs in those countries were attending school. Furthermore, even though Singapore is the most developed country in Southeast Asia, Wong (2014) found that institutional messages about accommodations for students with disabilities in six secondary education institutions in Singapore were general and did not address the special needs of each type of disability.

Lacking data on higher education of SWVIs may prevent policymakers from developing effective measures to improve education. Moreover, there are significant differences in terms of the economic, political, cultural, and social context between the Global North and the Global South. In middle and low-income countries, visually impaired people are more vulnerable and marginalized because they have limited access to resources (Foster & Resnikoff, 2005). Therefore, interventions that are working in developed countries may not apply to developing countries. In addition, doing research on SWVIs considerably differs from other social studies because it requires researchers to carefully design the study to not create further oppressions to

the participants (Oliver, 1998; Vernon, 1997). To address this issue, investigators may do well to employ an emancipatory approach that gives voices and empower participants in doing disability research (Barnes & Mercer, 1997; Shakespeare, 1996; Vernon, 1997). These considerations led me to include the voices of SWVI's in Vietnam to use such voices to inform policy making and interventions that improve their educational trajectories.

1.3. Significance of the Study

Vietnam is a low-resourced country located in Southeast Asia. Demographic data shows that the country has approximately 97 million people and children account for over a third of the total population (The World Bank, 2019). The economic reform in 1986 changed its economy dramatically and the country has maintained an average annual GDP development of 7.2%.

Vietnam is the leading country in Southeast Asia in achieving the Millennium Development Goals (MDGs) (UNICEF, 2011). However, the economic growth of Vietnam occurs simultaneously with social disparities. The gaps between social groups such as urban vs. rural areas, the Kinh - majority ethnic- vs. other tribal ethnicities, and non-disabled vs. disabled people are widening (The World Bank, 2019). More importantly, there is a significant gap in the education of children with and without disabilities in Vietnam. UNICEF (2011) reported that the enrollment rate to primary school was less than a third for Vietnamese children with disabilities. In terms of visual disabilities, approximately two million people in Vietnam have a VI (Vietnam National Institute of Ophthalmology (VNO), 2013). Among the visually impaired people in Vietnam, about 7.5% of children under the age of 15 attend schools, and the rate for children between ages 15-18 is 5% (Blind Vietnamese Children Foundation (BVCI), 2012).

Understanding the challenges that Vietnamese students with visual impairments face in their educational trajectories is important because it offers useful information for developing

interventions that can meet their unique needs. Moreover, if students with visual impairments finish college, they will have more opportunities to be employed, generate their income, and live independently. Participating in the workforce also increased the self-worth of visually impaired people, thus improving their quality of life. Additionally, Vietnam signed the Convention on the Rights of Persons with Disabilities (CRPD) in 2007, ratified it in 2015, and enacted corresponding domestic laws on the rights of people with disabilities (PWDs) but law enforcement has been weak (United Nations, 2020; USAID, 2018). Therefore, people with visual impairments who obtain better education will be able to advocate for themselves and others with the same circumstances more effectively than any person from outside.

Furthermore, while literature documents the positive impact of support services on the educational trajectories of visually impaired students, little is known about how visually impaired students survive academically in Vietnam, especially females. Women are considered a vulnerable group in Vietnam. Thus, being a woman and having a visual impairment double the challenges. This is the first study to explore the challenges and supports Vietnamese students with visual impairments encountered at home and the university, and the focus is given to gender differences and to the context within Vietnam universities that facilitate or create barriers for those students.

1.4. Purpose of the Study

The purpose of this study is to explore the academic experience of Vietnamese students with blindness and visual impairments from both visually impaired students' and faculty perspectives. To obtain the perceptions of visually impaired students on their academic experience, this study will explore the following: demographic data of students with visual impairment including their living circumstances, family background, and history of the

blindness; their experiences at an academic setting, including challenges and available support services from campus; and their coping skills in an academic environment. In addition, this study will explore perceptions of faculty on their experience with teaching college students with visual impairment. Obtaining perceptions on experiences of visually impaired students from multiple aspects will allow researchers to gain a deeper understanding of the subject studied (Creswell & Poth, 2018; Maxwell, 2012; Savin-Baden & Major, 2013).

1.5. Research Questions

The following questions guided the study to gain an understanding of the academic experience of Vietnamese students with blindness and visual impairments:

- 1) What are perceptions of Vietnamese students with visual impairments on their academic experience on campus?
- 2) How similar or unique are challenges and support services that Vietnamese male vs. female students with visual impairments have experienced?
- 3) What are the experiences of faculty on instructing Vietnamese students with visual impairments?
- 4) What should be implemented so that Vietnamese college students with visual impairments can achieve academic success?

1.6. Conceptual Framework

This study is supported and largely based on two theories: the social model of disability and the Bronfenbrenner's ecological theory. The first theory underscores the powerful role that attitudes and structures play in defining disability and how individuals with disabilities are treated. The second theory provides an understanding of various levels of contexts that influence an individual in a particular time. I synthesize key notions in each theory, notions that undergird

my positionality, thinking, and data analysis.

The social model of disability is the disability paradigm developed in concert with the disability movement. The old disability paradigm started with the charity model and the medical model. Those two models are considered as the individual model because they embedded the notion of blaming PWDs for problems they faced (French, 2017a). The charity model merely concerns the deficits of PWDs (Harris & Enfield, 2003; Pfeiffer, 2005). This model is based on the notion that disability is a personal tragedy, thus services such as special protection, care, help, pity, sympathy, and charitable donations may reduce the suffering (Moore & Slee, 2012). Embedded with these notions, PWDs internalize that they are not valuable or worthless and have low self-esteem (Harris & Enfield, 2003; Pfeiffer, 2005). The medical model also looks at the deficits of PWDs or the individual pathology (Johnston, 1996; Moore & Slee, 2012). It believes that PWDs have illnesses and need to be cured so that they can be normal (Hiranandani, 2005; Oliver & Barnes, 2012). Under this model, PWDs need special services and medical treatment provided by professionals. This implies that the problem is placed on individuals with the disability, thus they need to be changed to adapt to society (Harris & Enfield, 2003; Hiranandani, 2005; Pfeiffer, 2005).

In contrast, the social model of disability, founded in the United Kingdom, is based on the Marxist or class perspective of disability, thus it concerns itself mostly with the oppression of PWDs (Pfeiffer, 2005). This discourse explains that disability exists when society fails to accommodate differences among individuals (Moore & Slee, 2012). As Oliver (2013) said, “we were not disabled by our impairments but by the disabling barriers we faced in society” (p. 1024). This model also criticizes the medical model for viewing disability as an individual tragedy, thus focusing on fixing the individuals instead of the structures of society. It believes

that industrialization disadvantages PWDs due to their impairments and excludes them from the labor force (Pfeiffer, 2005). Furthermore, it advocates that society should be reconstructed to meet the needs of PWDs (see Figure 1).

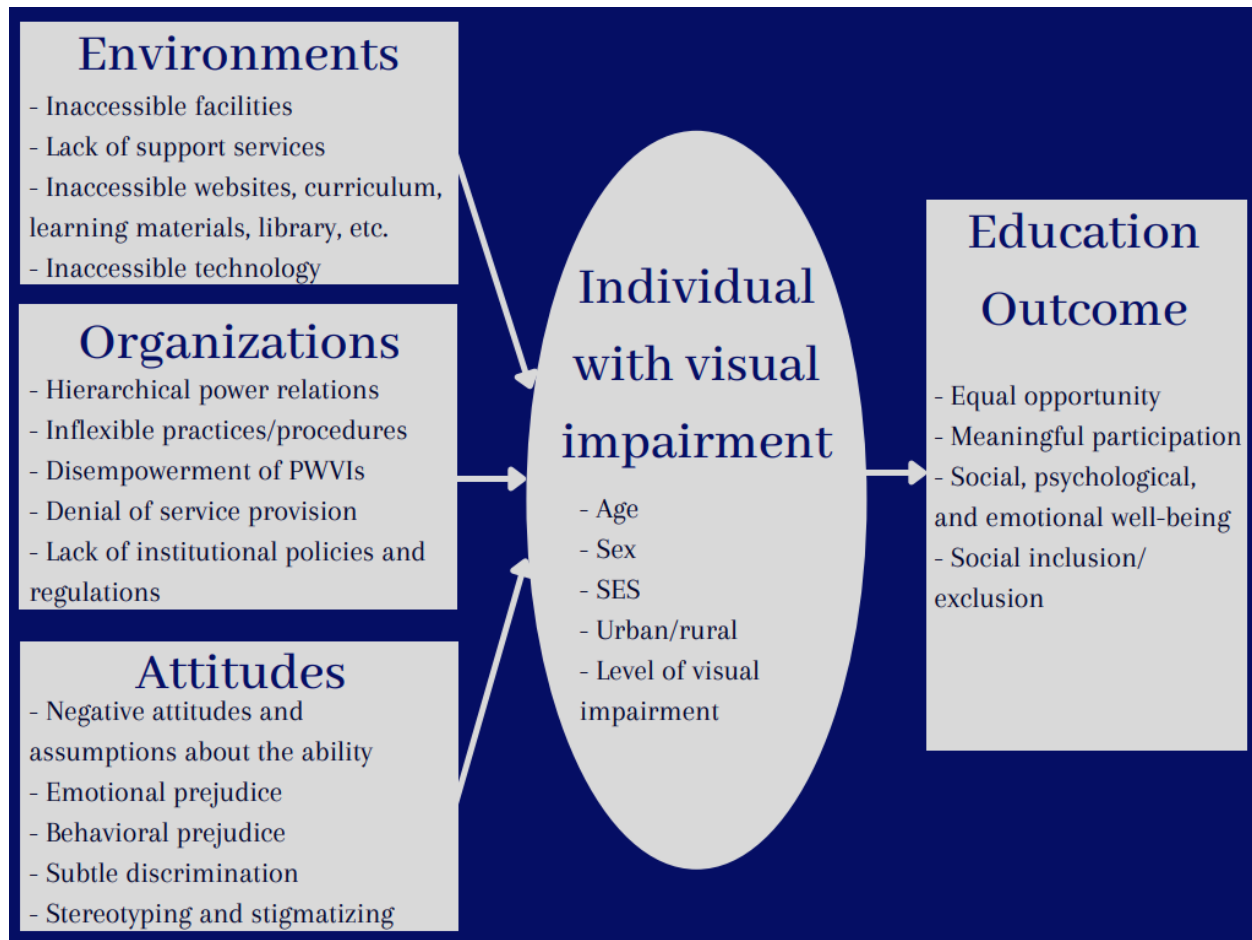


Figure 1: The social model of disability

The social model of disability undergirds the questions addressed in this dissertation. It helps to identify and understand specific societal views, attitudes, and beliefs that define the experiences of individuals with visual impairment (Schalock, 2004; Üstün, Chatterji, Bickenbach, Kostanjsek, & Schneider, 2003).

The Bronfenbrenner's ecological theory developed by Urie Bronfenbrenner in 1979, describes the influences of a person by surrounding environments in his/her interactions with

them. The ecological model allows researchers to have a better understanding of how contextual factors influence the academic outcomes of a student with VI so that they can suggest adequate interventions to enhance SWVIs' academic experience. The environments are categorized into five levels (see Figure 2).

(1) the microsystem includes elements in the environment that have direct influences on a person at a particular time. Usually, this system focuses on settings or relationships in which an individual with VI spends most of their time such as family, teachers, and peers.

(2) the mesosystem refers to the interactions between elements of the microsystem that have indirect influences on the individual with VI. For example, this level of the ecology focuses on the interactions between two or more microsystems such as family, peers, and instructors.

(3) the exosystem is a larger social system that does not have direct interactions with the individual with VI but indirectly affects that person. This level of the system includes social structures in the formal and informal support networks of the visually impaired person, namely social networks, parent's employment, neighborhood, and government and community agencies.

(4) the macrosystem is a combination of the micro, meso, and exosystems that exist and shape the culture, values, and beliefs of the visually impaired individual. Therefore, this system refers to the impacts of society on the person who lives in that society.

(5) the chronosystem is related to the dimension of time that affects the person's behavior across the lifespan (Bronfenbrenner, 1976, 1979, 1994, 1995).

Bronfenbrenner's theory helps in identifying interactions between different system levels that influence an individual, including biological, psychological, environmental, and social factors. In all qualitative analyses, I will draw on these different system levels to identify what students see as factors that impact their day-to-day learning experiences at the university students see as

factors that impact their day-to-day learning experiences at the university.

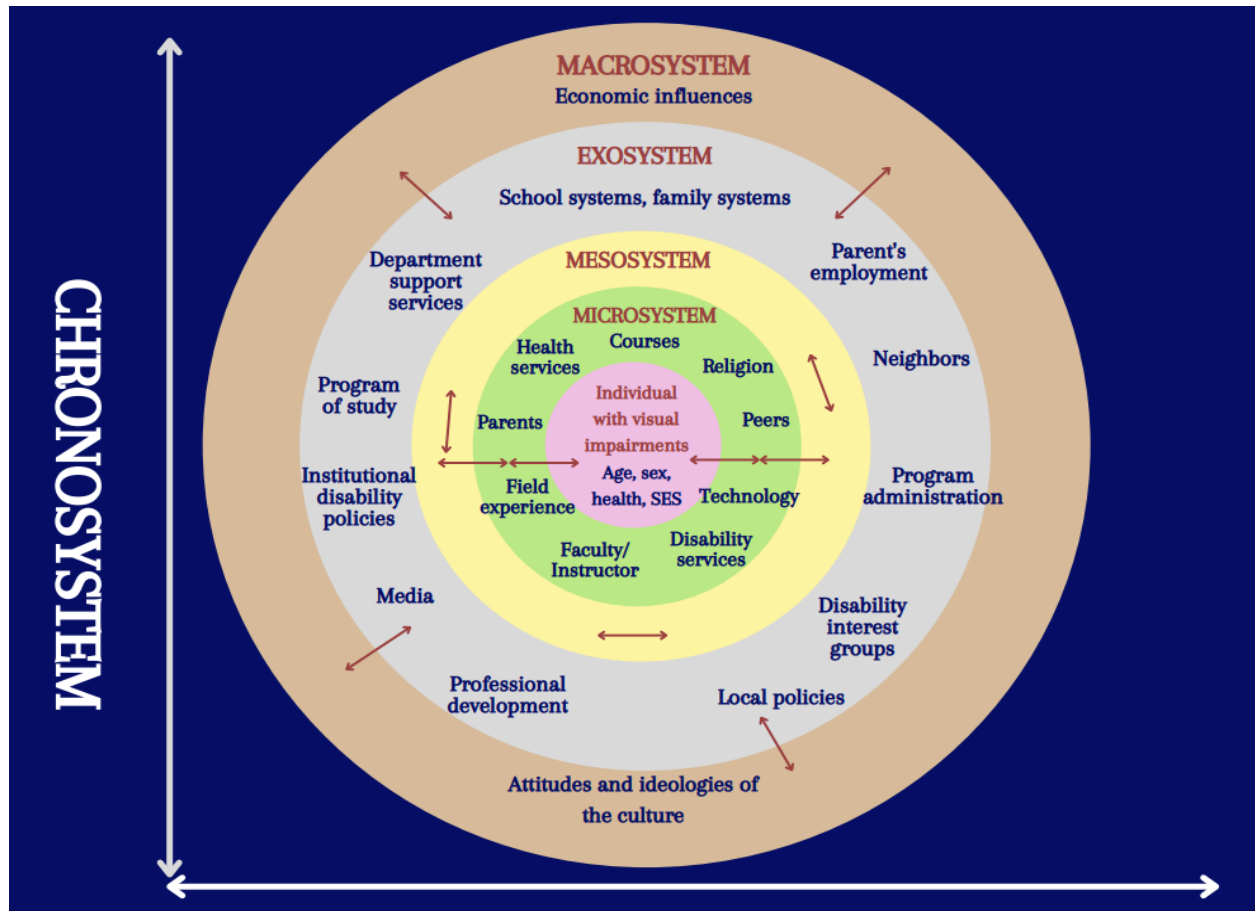


Figure 2: The ecological systems of a student with visual impairments

CHAPTER 2: LITERATURE REVIEW

Education plays an integral part in the lives of individuals, including PWVIs. Education equips people with knowledge and creates social changes (Apple, 2013). Literature affirms a strong link between education and employment opportunities. Each time a person reaches another level of education, they will be more likely to be employed and have a higher-income job. Some jobs require employees to have at least a bachelor's degree, and employees with a college degree are more likely to have above-average income jobs (Crosby & Moncarz, 2006; Lacey & Crosby, 2004; Shaw et al., 2007). Therefore, education plays a pivotal role in the integration of individuals with disabilities into mainstream society.

This chapter aims to provide background information on the education of visually impaired persons. It begins with a brief historical review of definitions of visual impairment and blindness. It also reviews the legal framework for educating children and youth with visual impairment globally. Then, it reports the current status of education for students with VI, discusses current challenges and factors that influence post-secondary education of SWVIs, and reviews strategies and interventions that have been used in the education of visually impaired students. Finally, this chapter discusses limitations in research and needs for future research.

2.1. Historical View of Definition of Visual Impairment and Blindness

Historically, there has been no definition of visual disability or visual impairment. The term emerged with industrialization in Western countries to identify those who were able to work in industrialized factories and who could not work (Oliver, 1996; Oliver & Barnes, 2012). In an effort to provide a consistent definition of disability across cultures, the World Health Organization (WHO) introduced the International Classification of Impairment, Disability and Handicap (ICIDH) for the first time in 1976 (Oliver, 1996; Oliver & Barnes, 2012). This

definition identified three distinctive terms: (1) Impairments are concerned with abnormalities of body structure and appearance and with organ or system function, resulting from any cause; in principle, impairments represent disturbances at the organ level, (2) Disabilities reflect the consequences of impairment in terms of functional performance and activity by the individual, thus disabilities represent disturbances at the level of the person, and (3) Handicaps are concerned with the disadvantages experienced by the individual as a result of impairments and disabilities; handicaps thus reflect an interaction with and adaptation to the individual's surroundings (WHO, 1980, p. 14).

However, organizations of people with disabilities did not support the definition introduced by the ICIDH. They rejected the scope of normality and wanted to have their voice in the disability movement. Thus, they introduced the definition of the Disabled People's International (DPI) as following: (1) Impairment refers to the functional limitation within the individual caused by physical, mental, or sensory impairment, and (2) Disability is concerned with the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others due to physical and social barriers (Oliver, 1996, p. 41).

The ICIDH definition was based on the notion of normality. Anyone who deviates from what is normal is considered to have an impairment, and disability is the limitation or restriction caused by an impairment. This definition was not fully supported internationally because it was based on Western values which considered an impairment, disability, and handicap as an unchangeable status. In reality, however, these statuses change over time and across cultures (Oliver & Barnes, 2012). Thus, following many debates in the last decade of the twentieth century, WHO introduced a new measure for disability, the International Classification of Functioning, Disability, and Health (ICF) in 2001 (Schalock, 2004; Üstün et al., 2003). ICF

believes that health status is not static, but a result of interactions between factors in the social environment surrounding an individual. Thus, the new definition of disability integrates biological, psychological, environmental, and social factors (Üstün et al., 2003; WHO, 2001).

This study uses the ICF definition of the term visual impairment defined as a health condition that results in a limitation in bodily functions. Some institutions, however, believe that visual impairment, visual disability, blindness, and vision loss are different terms for the same phenomenon. For example, WHO classifies vision into four categories: normal vision, moderate vision impairment, severe vision impairment, and blindness. According to this organization, all categories refer to visual impairment except the normal vision category (WHO, 2017). However, the American Foundation for the Blind (AFB) provides a specific definition for each term. For AFB, low vision is any person who has difficulty in undertaking visual images regardless of using prescribed corrective lenses. However, with the support of low vision devices and environmental modifications, this person can improve the ability to complete visual tasks (AFB, 2017). Legal blindness is a term used to determine individuals who meet eligibility for receiving welfare benefits. It refers to persons whose medical diagnosis indicates a “central visual acuity of 20/200 or less in the better eye with the best possible correction, and/or a visual field of 20 degrees or less” (AFB, 2017, p. p.2). However, vision loss is a broader concept. It counts individuals who have difficulty with seeing although with the best-corrected methods and also people who are blind or unable to see at all (AFB, 2017). Therefore, visual impairment and visual disability are used interchangeably by AFB and refer to persons who are blind or have low vision (AFB, 2017). In addition, an important term that is usually used by medical staff is visual acuity (VA). It is used to measure the ability of the eyes to distinguish things in detail at a specific distance (AFB, 2017).

2.2. History of Education of Students with Visual Impairment

Historically, children and youth with disabilities have faced several obstacles to obtaining a formal education. Earlier, throughout the world, there was no formal education for children with disabilities. Thus, parents either had to educate them at home or hire a private tutor if they wanted their children to be educated (Moore & Slee, 2012).

The first school for blind children in Europe was established in 1784 in Paris (McCall, 1997; Spungin & Huebner, 2017). It was not until the nineteenth century that more European countries, the US and Canada started to provide education for those children (Spungin & Huebner, 2017). In the US, the Perkins School for the Blind established in 1829 in Boston offered the first formal education for visually impaired students following the European residential model (Spungin & Huebner, 2017). US federal legislation dramatically influenced education for visually impaired students. For example, the passage of Chapter 186 to establish the American Printing House for the Blind (APH) in 1879 laid the foundation for producing learning materials in forms accessible to visually impaired students (Spungin & Huebner, 2017). Then, with the enactment of the Elementary and Secondary Education Act (ESEA) in 1965 and the Education for All Handicapped Children Act (EAH) in 1975, renamed Individuals with Disabilities Education Act (IDEA) in 1990, education for children with disabilities became a mandate (Garber & Huebner, 2017; Spungin & Huebner, 2017).

Special education or mainstream education at public schools are two common forms for educating children with disabilities depending on the severity of their impairments (Hardman, Drew, & Egan, 2017b). Mainstream education places students with disabilities (SWDs) in the same classroom as nondisabled students (NDs), whereas special education puts SWDs in a separate classroom or school with special curricula designed to meet their needs (U.S.

Department of Education, 2010). In light of this integration movement of children with disabilities in the 1970s in Western countries, currently, more children are placed in mainstream education (Hatton, 2014; Kirkwood & McCall, 1997; Spungin & Huebner, 2017).

Until the end of the twentieth century, legislation facilitated higher education for adults with disabilities due to growing public attention in some developed countries. For example, in the US, Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) require all educational institutions that receive public funding to provide reasonable accommodation for students with disabilities to fulfill their academic dreams (Hardman et al., 2017a). Similarly, the passage of The Education Act in the UK affirmed that public schools were the most appropriate education for children with disabilities (National Health Service, 2013). Subsequently, there are a few specialist colleges for students with VI that offer vocational preparation and training for rehabilitation (French, 2017b; Kirkwood & McCall, 1997).

2.3. Legal Framework for Educating Students with VI

Globally, children's right to education with VI has been affirmed by the Convention on the Rights of the Child (CRC) as a basic human right, and the educational right of youth and adults with disabilities has been recognized by the Convention on the Rights of Persons with Disabilities (CRPD) (Right to Education, 2014). The CRC was introduced in 1989 and adopted by 196 countries worldwide (United Nations, 2020). Meanwhile, CRPD was first introduced in 2006 and signed by 181 states. In addition, an international initiative on enhancing education for people with disabilities named Dakar Education for All (EFA) was enacted in 2000 and pledged by 164 countries (UNICEF, 2007). The formation of these international treaties indicated that nations were obligated to implement measures to ensure the rights to education of PWDs.

The international treaties are considered as the overall legal framework for countries to

provide education to people with disabilities in their respective countries. However, the international legislations are too general, thus each country needs to align its domestic laws to be consistent with signed international treaties. For example, Vietnam signed CRPD in 2007 and before it officially ratified the CRPD in 2015, Vietnam passed the National Law on Persons with Disabilities in 2010 so it was compatible with CRPD (United Nations, 2020; Vietnam Government Web Portal, 2010). This domestic law of Vietnam also recognized the right to education of all persons with disabilities. The state requires agencies to create conditions to guarantee PWDs have equal rights to non-disabled people including education and information (Vietnam Government Web Portal, 2010). Similarly, in the UK, the country that signed CRPD in 2007 and ratified it in 2009, the rights to education of people with disabilities are enforced by the Equality Act 2010 (Hepple, 2010; United Nations, 2020). The USA signed the CRPD in 2009 but has not yet ratified it. Currently, the education rights of PWDs in the US are protected by three domestic laws: The Individuals with Disabilities Education Act (IDEA) 1975, Section 504 of the Rehabilitation Act 1973, and Title II of the Americans with Disabilities Act (ADA) 1990 (Spungin & Huebner, 2017).

2.4. Education Status of Students with VI

Empirical studies on the education of students with VI are missing in developing countries. Thus, most knowledge of the field is based on literature from the West but there are few studies on literacy in children with VIs worldwide. In a review of literature on the educational status of children with visual impairment, nine studies were selected that met the inclusion criteria (Parker & Pogrud, 2009). Seven of them used qualitative methods and two used single-subject design or correlational design. Overall, the review described numerous strategies that had been used to develop the literacy of children with VIs and other disabilities in

relation to other variables such as communication skills, visual access, self-esteem, access to the written word, access to Braille, the practice of word identification, and phonological assessment (Parker & Pogrud, 2009).

Similar to students with disabilities, visually impaired students achieve lower levels of education than their non-disabled peers. PWVIs have lower education outcomes than sighted people no matter where they live (Shakespeare, 2012). Additionally, PWVIs in developing countries have lower educational status than their peers from developed countries. For example, the literature showed that the majority of PWVI in Bangladesh, India, Nepal, Pakistan, and Vietnam were illiterate (Dineen et al., 2003; Gilbert et al., 2008). Education has been particularly inaccessible to more than a half of children with disabilities in Vietnam, and only 31% of children with disabilities were enrolled in primary school in 2005-2006 (UNICEF, 2011). Overall, approximately 10% of children with disabilities including visually impaired children in developing countries attended school and only a half of them completed primary school (UNICEF, 2013).

Nonetheless, in recent decades there has been a significant improvement in the education of children and youths with VI in developed countries. Thanks to the integration movement, all U.S. children with disabilities are placed in a ma with non-disabled classmates or in special education schools (Garber & Huebner, 2017). The percentage of pupils with disabilities in K-12 public education in the U.S. increased from 13% in the 2000-2001 schoolyear to 14% in the 2017-2018 schoolyear and SWVIs accounted for 0.4% of all pupils in public school (National Center for Education Statistics (NCES), 2019). Specifically, about three-quarters of American students with VI complete high schools (Blackorby & Wagner, 1996; National Federation of the Blind, 2019; Wagner, Newman, Cameto, Levine, & Garza, 2006). Similarly, pupils with

disabilities in public mainstream classroom schools account for 14.6% of all pupils in the UK. Of these, 1.4% are pupils with visual impairment (Department for Education, 2018). Likewise, all Canadian children with disabilities attended either regular classes or special education classes or special education schools (Kohen, Uppal, Guevremont, & Cartwright, 2008).

Obtaining post-secondary education helps YWVIs to build a career path that can lead to independent living. Nonetheless, post-secondary education remains inaccessible in some parts of the globe. Only one in ten children with disabilities in developing countries attend school and most of them merely finish primary school (UNICEF, 2013). In contrast, students with disabilities constitute 10-20% of all college students in developed countries. Specifically, SWDs account for about one-fifth of all college students in the US, and the proportion of SWVIs was 4.2% in the school year 2015-2016 (National Center for Education Statistics, 2019). Additionally, over three-quarters of American students with VI attended post-secondary education within 8 years after graduating from high school, including 32% in 2-year programs or community colleges, 23% in vocational schools, and 14% in 4-year colleges (Newman et al., 2011).

A similar trend has been observed in the National Longitudinal Transition Study (NLTS) that was conducted to follow up high school students with disabilities in their transition from high school to employment or higher education. There was a great jump in school completion and college enrollment of youths with VI between the NLTS in 1987 and the NLTS2 in 2000 (Freeland, 2006; Kirchner & Smith, 2005; Wagner, Newman, Cameto, & Levine, 2005). Similarly, enrollment to a 4-year college or any post-secondary education doubled within the 10 years (Freeland, 2006; Kirchner & Smith, 2005). As a result, about one-third of American people with VI have some college or associate degree, and approximately 16% have a college degree or

higher (National Federation of the Blind, 2019). Similarly, over a fifth of Canadians with VI aged 15-64 had a post-secondary degree and among them, 9.0% had a college degree (Brennan & Sleightholm, 2006).

Although there is an increasing number of students with VI in higher education, the education outcome of youth with VI is still lower than that of the general population. Students with VI in the US are less likely to attend post-secondary education or vocational training compared to their sighted counterparts (Fairweather & Shaver, 1990a, 1990b; Zuckerman, 2004). High school completion rate is about 75% for SWVIs (National Federation of the Blind, 2019) while it is 90% for the general population (United States Census Bureau, 2017). Moreover, about 30% of adults with VI attend 2-year colleges or receive associate degrees (National Federation of the Blind, 2019) vs. 46% of the general population (United States Census Bureau, 2017). Lastly, a college degree or higher is granted to 15% of visually impaired adults vs. 45% of the general population (U.S. Department of Education, 2018). The average number of years of education for visually impaired adults is only 11.4 (Zuckerman, 2004). Newman, Wagner, Cameto, and Knokey (2009) found that although YWVIs had an exceedingly high enrollment rate in postsecondary education (78%), their graduation rate was very low (12%).

SWDs are often underrepresented in higher education literature and SWVIs are not an exception. Recently, two reviews were conducted on higher education of SWVIs, however, one study focused respectively on visually impaired students worldwide (Simui et al., 2018), while the other examined students with disabilities overall (Kimball et al., 2016). Given that disability is a broad concept including visual impairment, this section will summarize the literature on students with disabilities in higher education and then discuss visual impairment afterward.

Kimball et al.'s study (2016) agreed with Parker and Pogrund's study (2009) on the

scarcity of literature on higher education of SWDs. More importantly, this study found that literature was sparse and unequally distributed among sub-topics related to post-secondary education of SWDs. For example, a significant number of studies have focused on accessibility but very few studies have examined school completion or retention (Kimball et al., 2016). Also, in this review, the researchers noted that the included quantitative studies had some limitations such as using locally developed instruments. Thus, they cannot be necessarily valid in non-local settings, although they have the power for generalization. Furthermore, most studies had a small sample size, used convenient sampling, and were conducted at a single institution. In terms of designs, few studies employed an experimental design. Additionally, most studies used simple statistical data analysis such as ANOVA, MANOVA, or t-test. However, these studies collected self-report data that was an advantage because it gave students with disabilities a sense of self-concept as recommended by disability research (Kimball et al., 2016).

In their review of qualitative research on students with disabilities in higher education, Kimball et al. (2016) observed the following features. First, qualitative studies have relied on a variety of approaches, the most common of which were the case study and grounded theory. Also, different methods were combined to collect data such as participants' interviews together with observations that allow for triangulation. This review also found that some qualitative studies had an evaluation orientation, collected longitudinal or pre-and post-intervention data or from multi-institutions, and employed cross-case comparison. Other features that made qualitative studies appropriate for exploring disability were the use of interview protocol for individuals or focus groups interviews and follow-up interviews which allowed researchers to explore areas that were previously unvisited on the education of SWDs. In addition, this review also showed the importance of researchers being self-aware of their personal experiences so that

they could position themselves in relation to their participants and capture the meaning of stories told by students with disabilities. Finally, participatory and action research were viewed as advantageous in studying students with disabilities because they allowed for interactions between researchers and participants. Thus, the voices of students with disabilities were the focus of the research and empowered them (Kimball et al., 2016).

The next review of literature focuses particularly on higher education of students with visual impairment across the globe. It included 33 studies from 16 countries in five continents, namely, USA, Canada, Brazil, UK, Iceland, Greece, Bangladesh, Australia, Tanzania, Lesotho, Rwanda, South Africa, Uganda, Zambia, Botswana, and Zimbabwe (Simui et al., 2018). Although SWVIs in developed countries faced different educational barriers from students in developing countries due to differences in their socio-economic and political environment, the researchers concluded that SWVIs have not been fully included in higher education institutions (Simui et al., 2018). Five themes in higher education of visually impaired students emerged from this review: (1) a lack of inclusive policy from higher education institutions; (2) negative attitudes from faculty, staff, and peers; (3) inaccessibility due to limited use of assistive technology and information-communication-technologies in education; (4) a lack of training for staff on serving students with special needs; and (5) a lack of training on mobility and orientation for SWVIs. In addition, the review also found that self-advocacy, positive attitudes, and innovativeness were employed by SWVIs as coping mechanisms (Simui et al., 2018).

2.5. Challenges in Education of Students with Visual Impairments

Multiple studies have examined teaching strategies for visually impaired students. However, these interventions did not meet standards for evidence-based practices (EBPs) (Hatton, 2014) or effectiveness (Douglas et al., 2009; Douglas & McLinden, 2005). Reviewing

educational interventions for visually impaired children, Hatton (2014) found barriers to implementing evidence-based studies because SWVIs are heterogeneous. Each person experiences a different level of vision loss. As a result, the teaching and learning environment for each student with VI were tailored to meet his/her unique needs. It is also difficult for researchers to compare one visually impaired student with another because one may be placed in an inclusive classroom with a teacher of students with visual impairments (TVI), while the other may be taught in a resource room or in a special school (Hatton, 2014).

Several issues in the education of visually impaired students were explored in the literature. Difficulties with learning math, taking physical education, using Braille, and school delays are examples. SWVIs, especially congenital blind students, have difficulty with learning math due to a lack of spatial concepts (Dick & Kubiak, 1997). Braille use has declined among SWVIs apparently due to the use of computers in developed countries such as the UK, US, and Greece (Gray & Wilkins, 2005; McCall, 1997; Papadopoulos & Koutsoklenis, 2009). Previous studies have speculated that C/YWVIs tended to have delayed literacy development, but updated literature shows that the delay might be caused by a lack of literacy opportunities (Erickson & Hatton, 2007). Visually impaired children usually start to be exposed to Braille later than when their sighted peers are exposed to printed materials. Studies show that if children with a VI receive early intervention with literacy development, their literacy ability will be on par with that of their sighted peers (Douglas & McLinden, 2005; Erickson & Hatton, 2007).

Furthermore, it is very common that SWVIs are excluded from some subjects at school. The first subject that has been mostly inaccessible for students with VI is physical education even though physical activity is an important component at school because it improves physical and mental health. However, compared to sighted peers, school-age students with visual

impairments are less likely to participate in physical education and fitness (Haegele, Xihe, & Kirk, 2018). A literature review of physical activities of school-age youth with visual impairment indicates they have a lower level of physical activities and fitness. Causes for the discrepancies include a lack of appropriate opportunity for participation (Haegele & Porretta, 2015; Haegele et al., 2018). The second subject is sex education. Literature on sex education for SWVIs was neglected due to the historical belief that PWVIs were asexual. There was a gap in knowledge about sexuality between students with and without VI. A Taiwanese researcher observed a significant difference in knowledge about anatomy, puberty, conception, and STDs between visually impaired and sighted students (Duh, 2000). The study also identified the sources of knowledge for visually impaired students were from parents and teachers while the major source of knowledge for sighted students was from peers (Duh, 2000). Lacking knowledge about safe sex and sexual health skills can expose YWVIs to risky health behaviors and difficulties in adapting to marital life. In addition, social skills are key factors for a successful transition to adulthood for all youth especially for youth with special needs. However, literature underscores a negligence in providing expanded core curriculum such as independent living skills, self-determination skills, and social interaction skills to visually impaired students (Lewis, Savaiano, Blankenship, & Greeley-Bennett, 2014).

A lack of assistive technology in the education of SWVIs negatively affects students' performance. Although AT improves the education of SWVIs, some studies show an underutilization or little use of AT in education with the usage rate of just more than a quarter (Bouck, 2016; Gori, Cappagli, Tonelli, Baud-Bovy, & Finocchietti, 2016; Wong & Law, 2016; Wong & Libby, 2011). According to Zuckerman (2004), the most commonly used devices include white canes (12%), telescopic lenses (9%), Braille (5%), and guide dogs (less than 1%).

The study revealed that adapted computer technology was rarely used. Merely 34% of blind adults used mobility equipment, and of those, 72 % used a cane but not a white cane, crutches, a walker, prescribed shoes, or a brace (Zuckerman, 2004). In addition, approximately a half of students with VI in the US who were willing to use AT did not have opportunities to use it (Kelly, 2009). Despite the tremendous advantages that technology brings to education, researchers showed that most teachers of students with visual impairment in the US were not confident in teaching their students to use AT in the classroom (Zhou et al., 2012). Researchers pointed out reasons for the underutilization of AT including a lack of knowledge from teachers of students with VIs in instructing using AT, parental involvement, accessibility of devices, and unaffordable costs (Cuturi, Aggius-Vella, Campus, Parmiggiani, & Gori, 2016; Gori et al., 2016; Graybill, Supalo, Mallouk, Amorosi, & Rankel, 2008; Kelly, 2009; Wong & Law, 2016; Wong & Libby, 2011).

Another issue that SWVIs often experience is bullying in their educational settings (Pinquart & Pfeiffer, 2011; Ratcliff, Lieberman, Miller, & Pace, 2017). In their study of 89 adolescents with VI studying at special schools and 98 sighted students at nearby schools, Pinquart and Pfeiffer (2011) found a higher rate of bullying and victimization for German adolescents with VI compared to sighted ones. Girls with VI were more likely to be victimized compared to boys with VI or girls without vision loss (Pinquart & Pfeiffer, 2012). While most studies report negative impacts of victimization (Zablotsky et al., 2013; Zeedyk et al., 2014), researchers reported resilience among visually impaired adults and children after they were bullied (Ratcliff et al., 2017). Studies note that peer support may be an important coping mechanism for bullying (Pinquart & Pfeiffer, 2011). In addition, participating in sport activities is an effective strategy for mitigating bullying (Danes-Staples, Lieberman, Ratcliff, & Rounds,

2013).

College students with VI believe that they lack opportunities to fully participate in higher education compared to their sighted peers. For example, a study that surveyed both staff and visually impaired students of higher education institutions in Canada found that, although there was a high rate of graduation of SWVIs, most of them took longer than their sighted peers to complete their degree. In addition, SWVIs experienced a heavy reading load and difficulties with working in groups, and a lack of information about academic and social support that influenced their academic performance (Reed & Curtis, 2012).

2.5.1. Challenges in Higher Education in Developed Countries

Although a high percentage of students with disabilities in developed countries attend post-secondary school, they encounter countless challenges. The first challenge is related to disclosure status. To be eligible to receive accommodations, students with disabilities must disclose their disabilities and advocate for themselves (Wolanin & Steele, 2004). A disability disclosure is voluntary in post-secondary education. However, the National Longitudinal Transition Study 2 (NLTS2) found that 52% of students with disabilities who receive special education services in high school did not consider themselves as having a disability. As a result, they did not disclose their disabilities. An additional 7% of students with disabilities did not want to disclose their disabilities when they entered post-secondary school (Wagner, Newman, Cameto, Garza, & Levine, 2005). Similarly, in the UK, 25% of students with disabilities in higher education institutions did not disclose because they were afraid of being stigmatized or that they would not be able to enroll in a course that they liked (Vickerman & Blundell, 2010). Without disclosure, students with disabilities are more likely to be marginalized in higher education.

Shifting the responsibility to obtain accommodation from education institutions to

students with disabilities is the second challenge. Unlike children with disabilities in K-12 who are entitled to an Individualized Education Plan (IEP), a written document that identifies services to meet the educational goals of a student with disabilities, post-secondary institutions in the US are not required to provide IEPs to college students with disabilities. Higher education institutions are responsible to provide accommodations to students with disabilities if these accommodations do not impose an undue administrative and financial burden to the institution or fundamentally alter the program. Thus, there are cases that college students with disabilities did not receive the adequate accommodations that they needed (Eckes & Ochoa, 2005; Sahlen & Lehmann, 2006).

Lack of pre-enrollment and transition services from higher education institutions is another challenge. In the UK, nearly half of students who disclosed said that they were not contacted prior to the beginning of their courses to arrange accommodations. Of the students who were contacted, about two-thirds were not satisfied with the quality of the services they received. They wanted higher education institutions to seek their expectations on types of support that they needed and to develop a systemic policy on what is an accessible environment for students with disabilities more widely (Vickerman & Blundell, 2010). A qualitative study of SWDs in Northern Ireland reported a lack of effective communication between higher education institutions and students at pre-transition and during college years. As a result, these students were not aware of available services and did not get the services they needed (Redpath et al., 2013).

Career development is a critical goal of students in post-secondary education; however, it has been neglected in higher education of students with disabilities. A half of students with disabilities report that they are not aware of career services at their universities. Therefore, most

students with disabilities report that they are not prepared to transition from school to work by higher education institutions (Vickerman & Blundell, 2010).

Lack of adequate accommodations is a common challenge in higher education in middle- and high-income countries. While emphasizing the importance of support services, Greek students with VI report that universities are unable to provide accommodations that meet their needs (Vlachou & Papananou, 2015). In the UK, students with disabilities noted that their need for testing and assessment accommodations were not adequately met. They believed that instructors and staff lacked modification in teaching and assessment, thus creating learning barriers. They also felt their experience with learning and assessment was restrictive and thought that staff and instructors lacked awareness and training on how to support SWDs (Vickerman & Blundell, 2010). Even in the US where all public higher education institutions are mandated to provide reasonable accommodations to SWDs, some institutions blame students' requests as unreasonable to avoid providing them with their requested accommodations.

The term "reasonable" can be interpreted differently across institutions. This means that there are still numerous barriers for college students with VI (Fichten, Asuncion, Barile, Ferraro, & Wolforth, 2009; Fuller, Healey, Bradley, & Hall, 2004; Holloway, 2001; Keim, McWhirter, & Bernstein, 1996; Paul, 2000). Similarly, until 1974 several students with SWVIs were still rejected by several colleges and universities with the explanation that their accommodation request created an undue burden for the institutions (Fonosch, 1980). Likewise, a study on the accessibility of libraries in the US found that at several universities, SWVIs could not access their library's database pages (LeBeau, 2009). By the same token, Croatian SWDs encountered a lack of formal support from higher institutions and government such as with transportation, finance, and accessible facilities (Babic & Dowling, 2015).

A common barrier faced by SWVIs in developed countries is inappropriate attitudes from faculty, staff, and non-disabled students towards SWDs (Simui et al., 2018). A significant number of studies worldwide also underscore unfavorable attitudes experienced by SWVIs. In his study on faculty awareness of SWDs, Baggett (1994) sought opinions from 422 faculty and 11 deans across the US. The study showed that a majority of faculty were not well prepared to teach and accommodate SWDs. They were not familiar with their institution's disability policy.

A recent study on faculty attitudes towards SWDs in the US does not provide a positive image. The study showed that faculty still hold misconceptions about providing accommodations to SWDs, especially students with mental health and learning disabilities (Sniatecki, Perry, & Snell, 2015). In the UK, although faculty offer some kinds of accommodations, they lack specialist knowledge and resources to adequately accommodate SWVIs (Hewett et al., 2017).

Similarly, Canadian SWVIs experience unsupportive attitudes of faculty in college when they were not offered extended time for online exams (Fichten et al., 2009). Special service staff at Canadian universities felt that they struggled with understanding disability documents and offered appropriate accommodations to SWDs (Harrison & Wolforth, 2012). Likewise, Greek students perceived that they experienced unsupportive attitudes from teaching staff and negative attitudes from peers (Vlachou & Papananou, 2015). In Australia, many faculty members were still unaware of accessible materials for SWVIs, thus they did not deliver resources in an accessible and timely manner to students (Butler, Holloway, Marriott, & Goncu, 2017). These negative experiences with faculty hindered SWDs to seek accommodations (Marshak, Van Wieren, Ferrell, Swiss, & Dugan, 2010).

Lacking accessible learning materials is another barrier in higher education in developed countries. For example, in a study that combined both quantitative and qualitative methods of

Australian students with VI, researchers found that despite Australian universities being advanced in providing support services to SWDs, access to graphs and images remained a challenge for visually impaired students. Lacking access to graphical materials affected their equal access to education compared to their sighted peers (Butler et al., 2017). Furthermore, a significant number of Canadian SWVIs indicated that they still could not access some course learning materials such as videoconferencing technology, online tests and quizzes, PDF files, PowerPoint slides, and some course notes (Fichten et al., 2009). The same challenge was found at SWVIs in Brazil. They revealed that lack of orientation on using technology prevented them from using information technology, thus limiting their access to learning materials (Alves, Monteiro, Rabello, Gasparetto, & Carvalho, 2009).

Viewing educational challenges from a broader perspective, the voices of SWVIs and SWDs are underrepresented in the policy of higher education institutions. Canadian students with disabilities revealed that their voices were not fully addressed in the institutions' policy. Thus, they expressed the need for higher education institutions to critically examine their policy to include the voices of SWDs to effectively accommodate them (Hutcheon & Wolbring, 2012). The lack of disability voices is also noted in Vlachou and Papananou (2015)'s study.

2.5.2. Challenges in Higher Education in Developing Countries

SWVIs in developing countries face some similar challenges to developed countries in addition to specific challenges. The common challenges include lack of pre-enrollment and transition services from education institutions, no career development services, lack of adequate accommodations and accessible learning materials, disability voices, and negative attitudes of faculty and staff. For example, negative attitudes towards accommodations for SWDs were found among teaching staff in South Africa (Mutanga & Walker, 2017; Tom, Mpekoa, & Swart,

2018), Botswana (Chhabra, Srivastava, & Srivastava, 2010), Nigeria (Omede, 2015), and Zimbabwe (Chataika, 2011). SWVIs in Nepal faced stigma in their interactions with family, school, and community (Lamichhane, 2013). Most SWVIs expressed that their needs for adequate accommodations were neglected by higher education institutions (Kaputa, 2013; Mutanga & Walker, 2017; Ntombela & Soobrayen, 2013; Omede, 2015).

While SWVIs in developed countries lacked accessibility to learning materials, visually impaired students in developing countries experienced inaccessibility from multiple perspectives. They had challenges with mobility within campus due to inaccessible facilities (Banda-Chalwe, Nitz, & De Jonge, 2014; Mafa, 2012; Ntombela & Soobrayen, 2013; Omede, 2015; Stilwell & Majinge, 2013). Inaccessibility in developing countries was illustrated in many forms such as lacking access to library resources, lacking access to Braille or large print materials, lacking tactile materials, and lacking adequate learning materials (Alves et al., 2009; Banda-Chalwe et al., 2014; Stilwell & Majinge, 2013). Specifically, the need for educational materials for Nigerian students with VI was not met. Students could not afford to buy equipment such as talking books, Perkins brailers, or magnifiers if higher education institutions did not purchase them. In addition, most of the devices were manufactured abroad, thus they were costly. Finally, in most developing countries faculty and staff were not trained to work with SWVIs, thus it affected the quality of services they provided (Omede, 2015).

Besides, the most common issue that SWVIs faced in low-income countries was resource constraints and funding. For example, higher education institutions in South Africa blamed a limited budget for affecting their capacity to provide support services for SWVIs (Tom et al., 2018). Lacking an adequate budget was also a critical issue for disability-related service provision in Tanzania (Stilwell & Majinge, 2013) and Zambia (Muwana, 2012).

Access to assistive technology (AT) has been one of the greatest challenges in resource-constrained countries. Lack of money was the main cause for the low usage of AT in developing countries (Muwana, 2012; Stilwell & Majinge, 2013). Besides a lack of funding and financial resources, human resources were another cause. Mutanga and Walker (2017) stated that lecturers were not trained on the requisite skills to teach SWDs. They thus lacked knowledge of how to use assistive devices. Grönlund, Lim, and Larsson (2010) believed that the underuse of AT was caused by a lack of a systematic approach that included school, national policy, and a network of all stakeholders.

Most studies from developing countries underscore the lack of a comprehensive approach to disability policy at the institutional and national levels. For instance, faculty in South Africa stated that their institutions neither trained them on how to accommodate SWDs nor developed an institutional policy to provide support services for SWDs. This seriously affected the quality of services that SWDs received and how they viewed the institutions (Mutanga & Walker, 2017). Similarly, there was an inconsistency in the disability policy of the university and its provision of disability support services caused several confusions for SWDs in Lesotho (Mosia & Phasha, 2017).

2.6. Factors Affect Educational Outcomes

Numerous factors affect the education of YWVIs. The factors can be categorized into personal, mezzo, and macro-levels as suggested by the ecological model (Bronfenbrenner, 1979). Personal factors include the severity of VI, self-esteem, self-adjustment, self-determination, and self-advocacy. In addition, stigma, discrimination, and isolation that directly affected individuals with VI are other individual factors. The mezzo level includes factors related to family, school, peers, and social service organizations. Finally, the macro-level contains a disability policy.

Most studies reveal similar factors across locations. When the PWDs were young, most factors were related to parents, schools, and the social environment. In India, researchers indicated mothers had a significant impact on the education of children with VI. Therefore, mothers' expectations of their children's education, work, and future influenced the decision to support children's education (Jacob, 2005). Similarly, parental perceptions on physical activity also affected their children with VI participating in physical activities in and outside of school settings (Perkins, Columna, Lieberman, & Bailey, 2013). In terms of teachers, findings from the US showed the heterogeneity of educational quality for SWVIs due to a significant variation in the quality of teachers of visually impaired children (Wolffe et al., 2002). Age influences the level of education, so younger adults with VI tend to have more education. However, no difference was found in educational attainment between men and women with VI (Zuckerman, 2004). Poverty appears to influence the education achievement of SWVIs. SWVIs from high-income families face better school experiences than their friends with lower economic status (Wagner & Blackorby, 1996). Life skills seemed to play a significant role in educating C/YWVIs. A meta-analysis on social skills for visually impaired youth confirmed the positive effect of teaching life skills on students' academic outcomes (Botsford, 2013).

Among the personal related factors, the severity of VI is unchangeable, but other factors such as self-esteem, self-adjustment, self-determination, and self-advocacy can be improved if educational institutions create an environment where SWVIs can participate. "Self-concept is an image that an individual has of himself or herself which is formed by a conceptualization process requiring experiences for information. Self-esteem, one of the components of self-concept, also depends on experience to develop and function" (Dawn, 2018, p. 24). Studies show that bodily functional limitation affects the self-esteem and self-identity of individuals with VI. In addition,

mobility limitations contribute to PWVI's dependency on support services or help from others. This in turn can contribute to feeling helpless. Therefore, positive self-esteem and good emotional adjustment would help SWVIs to adapt well in a learning environment and to better academic outcomes (Dawn, 2017). In addition, researchers have found that self-advocacy is a necessary skill for SWVIs to effectively negotiate needed accommodations in higher education (Butler et al., 2017; Simui et al., 2018)

For higher education, personal factors play a key role in visually impaired students' attainment along with environmental factors. Fichten et al. (2015)'s study of 66 SWVIs in Canada showed that if students perceived behavioral control over graduation and were only visually impaired, they were more likely to graduate. In addition, favorable views about the impact of graduation, self-efficacy expectations, a school with a supporting environment, and the individual's situation were also predictors of college graduation (Fichten et al., 2015). In the US, researchers found that sex, parental level of education, graduation status from high school, and family income were associated with college enrollment (Fairweather & Shaver, 1990a, 1990b). Likewise, self-esteem and social support strongly influenced the academic performance of college SWVIs (Beaty, 1994). Self-determination and self-advocacy were essential for college students to negotiate needed services on campus (Getzel & Thoma, 2008).

Accommodation is the most important environmental factor in the education of YWVIs and draws significant attention from literature. Accommodations include services that higher education institutions provide to SWDs so that they have equal access and participation in the course as non-disabled students. Accommodation for SWVIs can take many forms such as large print or Braille materials, testing form adjustments, and accessible classrooms. Most studies acknowledge the positive impacts of accommodation on the academic achievement of SWVIs

(Berry & Mellard, 2002; Keim et al., 1996; Kim & Lee, 2016; Li et al., 2012; Zebehazy, Zigmond, & Zimmerman, 2012). However, current accommodations have not fully met the need of visually impaired students (Berry & Mellard, 2002; Hewett et al., 2017; Hill, 1996; Sachs & Schreuer, 2011). Drawing on the findings of their longitudinal qualitative study, the authors revealed a lack of appropriate accommodations provided to SWVIs in the UK (Hewett et al., 2017). Although higher education institutions made some adjustments so that SWVIs can access the course, those adjustments were not made in order, thus causing some barriers for them. In addition, there was a lack of specialist knowledge from university staff on providing accommodation and inclusive learning environments to SWVIs (Hewett et al., 2017; Lieberman, Houston-Wilson, & Kozub, 2002). Lack of resources, funding, coherent policies, and legal framework were existing challenges in providing accommodations for SWVIs in many countries (Berry & Mellard, 2002; Jacklin, Robinson, O'Meara, & Harris, 2007; Rajohane Matshediso, 2007).

Researchers underscore that faculty's attitudes are the most important factors that decide the level of accommodations visually impaired students receive. By law, faculty and staff have to provide instructional accommodations to disabled students, however, their awareness of disability would define the quantity and quality of services they provide (Rao, 2004). A qualitative study with 18 SWVIs in Malaysia observed the impacts of librarians' attitudes on library use of visually impaired students. Having positive experiences with librarians would enhance SWVIs' sense of belonging and this motivated them to use library services. In contrast, SWVIs avoided using the library when they felt a lack of sympathy from librarians (Bodaghi, Cheong, & Zainab, 2016). Moreover, some faculty lacked awareness of disability (Baggett, 1994; Fuller et al., 2004; Paul, 2000; Tinklin & Hall, 1999), were unwilling to provide

accommodations for SWVIs (Beilke & Yssel, 1999; Hill, 1996; Vogel, Leyser, Wyland, & Brulle, 1999), blamed visually impaired students for requesting too much (Moswela & Mukhopadhyay, 2011), or provided inappropriate accommodations (Kim, 2012) led to poor or indifferent outcomes for SWVIs. As SWDs, SWVIs experienced issues with access and quality assurance in higher education. Although access to facilities has been improved, numerous issues still exist with access such as access to curriculum, lectures, and settings off-campus. In terms of quality assurance, feedback of SWDs has not been regularly sought, thus their needs may not be sufficiently met.

Reports found inconsistencies in recruiting students with disabilities among different colleges (Lancaster, Mellard, & Hoffman, 2001; Tinklin & Hall, 1999), a lack of information on accommodations (Fuller et al., 2004; Lancaster et al., 2001), inaccessible facilities and transportation (Lancaster et al., 2001; Muzemil, 2018; Paul, 2000), a lack of skills and knowledge from staff and faculty of providing support to SWDs (Lancaster et al., 2001; Moswela & Mukhopadhyay, 2011; Paul, 2000). Although the UK is a leading country in the disability movement, there is still a shortage there in the creation of an equal educational environment for SWDs. Finally, lacking voices from SWDs caused a low satisfaction with services provided by colleges (Vickerman & Blundell, 2010).

2.7. Interventions for Improving Education for SWVIs

Several strategies have been implemented to improve the education outcomes of SWVIs. At the macro-level, many countries have domestic laws that require higher education institutions to provide accommodations to all SWDs. However, the process for achieving this is unclear. For example, in the US section 504 of the Rehabilitation Act of 1973 and the ADA of 1990 stipulate that post-secondary institutions have to offer equal education access to all students regardless of

their disability status. Consequently, most colleges and universities have established a unit that is often called the Office of Disability Support Services (Wolanin & Steele, 2004). Due to unclear laws about the process, however, institutions across the US have interpreted the term “reasonable accommodations” differently. As a result, some institutions provide more support services to SWDs than other institutions (Harding, Blaine, Whelley, & Chang, 2006). Unlike elementary and secondary school, higher education is voluntary. However, higher education institutions offer no clear path on how SWDs can achieve their educational goal like in the Individual Education Plan (IEP) that SWDs had before. Thus, the amended IDEA requires the Individual Education Plan (IEP) to include a transition plan to post-secondary education as a strategy for improving college experiences (Wolanin & Steele, 2004). A significant number of studies also stressed the positive influence of transition services on the academic outcomes of SWVIs (Mask & DePountis, 2018; Orr, 2012).

Several strategies to improve academic experiences for visually impaired students have been implemented by higher education institutions. In the US, accommodations were the tools for colleges and universities to fulfill the requirements of disability laws. Accommodations for SWVIs included converting print textbooks into an alternative format, having audio descriptions or narrations of images, and extending test times.

Providing accommodations significantly improves the grades of SWVIs (Kim & Lee, 2016; Wong, 2014). In Malaysia, student volunteers were recruited to help visually impaired students with searching, reading, and borrowing materials at university libraries. Volunteer students also offered opportunities for SWVIs to befriend and interact with other sighted friends (Bodaghi, Awang-Ngah, & Noorhidawati, 2014). Another strategy is to provide training on disability for staff and faculty.

As expressed by most SWVIs, a lack of positive attitudes from staff and faculty significantly affects the provision of accommodation. Training faculty on creating an inclusive classroom was rated by disabled students as an effective strategy (Lancaster et al., 2001; Morgado, Melero, Molina, & Cortés-Vega, 2016; Moriña, Cortés-Vega, & Molina, 2015). Bodaghi and Zainab (2013) reported that training librarians in Malaysia on serving SWVIs is an effective strategy to enhance library use. Welcoming attitudes from librarians created a sense of belonging and this stimulated SWVIs to use library services to support their studying. Educators also found employing a universal learning design, a model to create equal learning opportunities for all students, was useful for including SWVIs in higher education classrooms (Watchorn, Larkin, Ang, & Hitch, 2013). In the study on best practices to serve SWDs, Samson (2011) pointed out that applying the principle of universal access to information for academic libraries would meet the needs of all SWDs.

Using the same philosophy, numerous studies illustrate that reasonable curricular adjustments would benefit all SWDs. Adjustments include providing learning materials in an accessible format to each SWDs, seeking responses in an appropriate format, allowing more time for examination and coursework, and allocating appropriate settings for testing or lecturing (Konur, 2006; Lightfoot & Gibson, 2005; Sunggye, 2012). Another strategy to improve the quality of fieldwork for SWVIs is to develop a guidebook for fieldwork. This guide detailed steps that faculty, staff, and SWVIs need to prepare and implement before, during, and after fieldwork (Shepherd, 2001).

Technology has been viewed as a critical strategy for the academic success of SWVIs. Increasing the use of AT is a promising intervention to improve education for SWVIs (Sunggye, 2012). In developing countries, using information and communication technology (ICT)

including a personal computer, internet, e-learning platforms, weblogs, podcasting, social networking sites, emails, and mobile phones are promising interventions for the academic achievement of SWVIs. In his quasi-experimental study using an ex-post-facto design with 28 visually impaired students at two colleges in Nigeria, Eguavoen (2016) asserted that using ICT improved the academic performance of SWVIs. Similarly, Kapperman, Koster, and Burman (2018) illustrated that using a JAWS screen reader and Braille display helped SWVIs to learn foreign languages independently from teachers of visually impaired students. In the same token, Nees and Berry (2013) found that audio assistive technology in education offered an alternative to visual materials that were previously not accessible to SWVIs. Likewise, the effectiveness of assistive devices such as print media, computers, mobile and multimedia, written communications, and producing materials in alternative format were reported in the study of D'Andrea and Siu (2015). ICT also proved to improve information provision for SWVIs at five universities in Tanzania but unfortunately, Tanzanian libraries lacked assistive equipment to serve PWVIs (Stilwell, 2014).

Literature documents practices that involve family and friends of SWVIs can improve their academic achievement. Researchers found a significant impact of parental support on the academic success of YWVIs. In their longitudinal study of SWVIs, McDonnall, Cavanaugh, and Giesen (2012) found a relationship between parental involvement and academic achievement of SWVIs. Similarly, the critical role of parents on the academic performance of YWVIs was illustrated by researchers in Nigeria (Ukeli & Akem, 2013). In their work, researchers showed a link between social supports, especially peer support, and psycho-emotional wellbeing and academic outcomes of SWVIs (Heppe, Kef, de Moor, & Schuengel, 2020; Kef, 2002; Kef, Hox, & Habekothé, 2000).

Finally, interventions that target individuals with VI have emphasized the importance of improving themselves. Reviewing the literature on mobility and orientation (M&O) skills, researchers underscore their importance for independent living. M&O helped SWVIs travel independently, thus increasing their sense of self-concept (Emerson & McCarthy, 2014). A significant number of studies confirmed that teaching social skills for SWVIs helps them develop self-advocacy, self-determination, and self-adjustment. They are important social skills that SWVIs need to learn to effectively request accommodations in higher education institutes (Getzel & Thoma, 2008; Ivy & Hatton, 2014; Mask & DePountis, 2018; Sahlen & Lehmann, 2006).

In conclusion, the review underscores a need for more systematic research on individuals with VI in higher education, especially in developing countries. More research is also needed on gender differences and supports that are needed to help such students succeed. Besides, the social approach of the disability theory pointed out several barriers in the social environment that critically influence SWVIs, therefore, there is a need to explore those barriers from this lens. Finally, since PWDs lack participation opportunities and a participatory action-oriented approach that allows PWDs to voice their concerns is another critical feature for future research on disability.

CHAPTER 3: METHODOLOGY

This chapter presents the methodology that will be used in the study to explore the academic experiences of students with visual impairments and blindness at higher education institutions in Vietnam. I utilize a multiple case study approach as it can provide an in-depth focus on the processes and experiences of individuals in different contexts (Creswell & Poth, 2018; Stake, 2013). This section contains the following parts: 1) Philosophical assumptions, 2) Multiple case study approach as the research design, 3) Reflexivity, 4) Procedures, including the study participants, data collection procedures, and interview questions, 5) Data analysis procedures, 6) Strategies for maintaining credibility, and 7) Ethical considerations.

3.1. Philosophical Assumptions

Philosophical assumptions are also called a paradigm are a set of beliefs that shapes the way a researcher views the world and brings it into a study (Lincoln & Guba, 1985). It also reflects the way the researcher obtains the knowledge of the reality; thus, it will guide the way the study will be conducted (Savin-Baden & Howell-Major, 2013). The paradigm that will be used in this study is social constructivism which is also called interpretivism. Followers of this paradigm believe that there are multiple realities constructed by human beings through their lived experiences and interactions with others within the social, historical, and cultural norms. To gain knowledge of reality, researchers seek to understand how participants develop complex meanings of their situation because the participants' views are shaped by their own diverse experiences (Creswell & Poth, 2018). Social constructivists listen carefully to what participants say about their life situation and observe the participants' contexts, then use the researchers' lens and subjective experiences to interpret the perceptions that the participants have about the world (Bryman, Bell, & Teevan, 2012; Creswell & Poth, 2018). Social constructivist inquirers let

themes emerge and inductively develop a theory based on their interpretations of the meanings of the other experiences (Creswell & Poth, 2018; Savin-Baden, & Major, 2013).

The social constructivism paradigm is chosen for this study as it allows the researcher to explore the lived experiences of students with visual impairment in their interactions with contextual and environmental factors. It thus serves as a useful tool for the researcher to organize and understand multiple layers of factors that promote or hinder higher education of SWVIs from their perspectives. This study is also compatible with the constructivist paradigm as it interviews SWVIs directly and gives opportunities for participants to share their own views on the situations they are facing. By asking open-ended questions, the researcher can obtain as much information about life events. Finally, constructivism allows the researcher, who has been long been engaging in the disability field to reflect on and interpret the meanings of the visually impaired students based on her subjective experiences.

3.2. Multiple Case Study Approach as the Research Design

The approach that was utilized for this qualitative inquiry is the multiple case study method because it allows the researcher to look for rich data about SWVIs. The case study is a qualitative approach that an inquirer investigates a case, which can be a single subject or multiple subjects, within its real-life context or in a particular time and place by collecting detailed, in-depth data from multiple sources of information (Creswell, 2013; Savin-Baden & Howell-Major, 2013). The primary focus of a case study is to develop a rich description and analysis of a case or multiple cases, thus providing an in-depth understanding of the issue. Besides having multiple sources for data collection, this method also allows the researcher to analyze data through the description of the case, finding themes from the case or across the cases, and seeing the similarities and differences (Creswell, 2013; Savin-Baden & Howell-Major, 2013).

For this dissertation study on academic experiences of SWVIs, the case study approach is an appropriate approach for several reasons. Through in-depth interviews, I can explore the contexts or historical backgrounds that shape the way SWVIs view their academic experiences. In addition, in this dissertation study, the researcher collected data from different students, faculty members, and college administrators to understand this issue to obtain rich data and corroborate the results. Therefore, in a case study approach the issue is illustrated and reinforced by multiple cases (Creswell, 2013; Savin-Baden & Howell-Major, 2013; Terrell, 2016).

Although there are many cases in a multiple case study research, the cases must have some similarities (Stake, 2013). For example, the student participants must be college students and have a visual impairment at the time the study is conducted. A concept that has been often discussed in a multiple case study research, the quintain. The quintain is a collection of similar characteristics or features of cases that represent the phenomenon being studied. Therefore, the quintain is the focus of multiple case study inquiry instead of the case. The researcher studied single cases to find similarities and differences across the cases to understand the phenomenon better. Thus, multi-case research “is a move away from holistic viewing of the cases toward constrained viewing of the cases – a viewing constrained by the domination of the quintain over the cases” (Stake, 2013, p. 6). It means that the complexity and uniqueness of each case are also studied but to obtain a general picture of the phenomenon, researchers pay attention to “selected variables in each case, not the case as a whole” (Stake, 2013, p. 7). Similarly, the notion that the wholeness of the case sometimes has to be constrained to suit the general feature of the collective cases has also been confirmed by Siverman (2017).

Literature suggests that the case study approach is a difficult method and to eliminate the roadblocks, researchers need to identify these elements: defining the case and the settings of the

case (Savin-Baden & Howell-Major, 2013; Terrell, 2016). A case in this dissertation study is represented by a student with VI. For this dissertation study, a collective case study approach was used because multiple cases will be investigated to collectively represent the issue (Creswell, 2013). Their academic experiences, the phenomenon of the study, were explored through the experiences of multiple SWVIs.

3.3. Reflexivity

Qualitative researchers believed that because subjectivity is unavoidable when interpreting and writing about participants, it is necessary for researchers to clearly state their position, roles, personal beliefs, and values in the study (Creswell & Poth, 2018). Therefore, I will describe important events in my life that have shaped my values and beliefs.

I had multiple chances to closely observe children and youth with disabilities in my life. Being a primary school teacher, my mother understood the family background and tried to meet the needs of each student that she taught. Often, my mother took home a few students to feed and teach them after school because these students were not given enough food at home, neglected by parents, or had learning difficulties. I remember my mother explained to my family when one girl came to our house almost every day after school that her single mother neglected her, and the girl was always hungry when she went to school. My parents believe that education is the only way to change the life of a child no matter what his/her ability is, and it is not the student's fault if he/she cannot learn but the teacher's method. At that time, my mother and I did not know anything about social work, we only wanted to do something to help people in need. Embedded in my parents' ideology, I have a great passion for community services and social changes.

My cousin had a son who had learning disabilities after a serious illness. It took him longer to study anything, thus his teacher refused to teach him because he was two years older

than his classmates and his poor grade would affect the overall competitive performance of his class compared to other classes of the school and the county. As a result, my cousin had to let him stay home and asked me to tutor him every day when I was in college.

When I completed high school and took the national college entry exam, there was officially no social work program in the country. Open University in Ho Chi Minh City offered a two-year program on social work but was named Women's Studies because, after 1975, all social work education programs in the South of Vietnam were closed. The Vietnamese government believed that social work was not necessary for a communist country where everyone was treated equally. Hence, I enrolled in the Vietnam National University in Ho Chi Minh City, College of Social Sciences and Humanities, Department of German Literature and Linguistics because this university was the only place where I could engage in social activities. My close friend and I formed a social work club at our university to develop activities to help children with special needs. Once I graduated from college, I started to work for a local nonprofit organization as a social worker. Without a background in social work, I had to attend training workshops provided by international non-for-profit organizations to fulfill my work and enrolled in the two-year social work training program under the name Women Studies at Open University.

During my social work career, I realized that social work in Vietnam focused only on providing direct services to clients. The profession lacked other important components such as social justice and research. However, social justice, human rights, and advocacy are sensitive terms that were prohibited in Vietnam. Despite those challenges, I did not follow the existing path that the country drew for social workers in Vietnam. I joined the national, regional, and international networks of social workers to exchange knowledge and skills to promote services for clients based on human rights standards.

After completing my MSW, I had three years of teaching experience at a university and came to deeply understand the reality of lacking support services for SWDs. Even though Vietnam passed the Law on the Rights of Persons with Disabilities in 2011, many universities still refused to enroll students with disabilities into their programs with the excuse that they had no resources to support those students.

Searching the websites of most well-known universities, I did not see any information about support services or accommodations for students with disabilities except for one university, which posted information about tuition reduction/waivers for students with disabilities. Surprisingly, the Vietnam National University-Ho Chi Minh City is one of the pioneer universities in recruiting students with disabilities. although the university has not established services for students with disabilities.

According to the data of the Audio Book Library of Ho Chi Minh City, this university provided audiobook services to over 70 students with low vision and blindness in 2014. Besides services provided by nonprofit agencies outside campus, no service was documented for SWVIs from public colleges and universities in Vietnam. These students are struggling with the learning at an academic institution, especially dealing with assignments and exams. At the time, most of the exams are taken in class and low vision and visual impairment students have to take the exam together with sighted students. The test-giver will read the questions for all students including blind students. The low vision and visual impairment students may choose to write the answers in Braille or type in the computer then email to the instructor. However, there is no extra time for low vision and visually impaired students to complete the exam. It caused high pressures on these students and affected their academic performance as well as their mental health.

Besides, collaborating with Vietnam Assistance for the Handicapped (VNAH), I had a

chance to travel across Vietnam to provide training on case management for community workers who worked with PWDs. I witnessed the invisibility and exclusion of people with disabilities from the public view. Most of the PWDs I met have a very low level of education and have no job. They have to either depend on their family for a living or live at institutions. Being dependent on others for their daily living, they have no voice in making decisions on matters related to their lives.

Moreover, my philosophy of meeting the special needs of each student with disabilities stemmed from experiences during my childhood. When I was young, I witnessed socialist economics where there was only public ownership of all production means and allocate goods to families through vouchers every month. On a certain day of the month, each family had a representative to bring the vouchers to the cooperative mart to get the goods. All family members who lived in the same address were considered as a household and goods were distributed through the household system. Each household received the same amount of food and household items. I remember that my father had a motorbike but the gas we received was just enough for him to drive a few days a month. Then, we had to wait until the next month to get the same amount of gas. Therefore, my parents had to bike to school every day and only used the motorbike for longer trips. Whereas our villagers also received the same amount of gas although they did not have a motorbike. As a result, villagers contacted each other to exchange items that they received but did not use. From these experiences, I always pay attention to the individual needs of each person with disabilities I work with.

3.4. Procedures

Since there is only scant literature on the experiences of Vietnamese students with visual impairment, the appropriate data source for the study is primary data. This study is based on

primary data from interviews with Vietnamese students with visual impairment. This data was supplemented with interview data from faculty who have instructed students with disabilities. Faculty participants also included college instructors and administrators.

3.4.1. Participants

The participants included thirty students with visual impairment along with 10 college lecturers, all from Vietnam. Data was collected in person for 20 students (8 females, 12 males) and 3 lecturers (1 female, 2 males). Due to COVID-19, the supplemented interviews were collected directly via telephone with an additional 10 students (6 females, 4 males) and seven lecturers (3 females, 4 males). The study sites included universities in Hanoi, Ho Chi Minh City, and the central of Vietnam. These regions were selected because the local social and cultural context of each region is different, and they are the three largest centers of Vietnam where most universities of the country are located. Thus, including participants from different regions helped the researcher to obtain diverse views of their experiences.

The eligible criteria for students who participated in this study include: 1) having a visual impairment that makes the best-corrected acuity less than 10% in the better-seeing eye, and 2) having an age between 18 to 32 years, and 3) attending a post-secondary education institution for a two-year or more program. The eligibility for faculty who participated includes: 1) being Vietnamese, 2) between ages 25 to 70 years, and 3) being a college or university administrator/instructor in Vietnam.

For a multiple case study approach, there is no standard sample size (Patton, 2002; Siverman, 2017; Terrell, 2016). Thus, it depends on the researcher to determine the number of cases for his/her study needs based on the context and purpose of the study. However, Savin-Baden and Howell-Major (2013) suggested investigators consider the following factors when

deciding on sample size: the traditional sample size of the study's method, the goals of the investigator for the study, the type of sampling, the quantity and detail of data will be collected, and the size of the target population. Creswell (2013) underscored that "one general guideline for sample size in qualitative research is not only to study a few sites or individuals but also to collect extensive detail about each site or individual studied" (p.157). For this study, the sample included 30 students with visual impairments and 10 faculty or administrators in three different regions.

3.4.2. Interview Approach

Interviews can provide in-depth information on an individual's experiences. Interviews SWVIs were conducted in-person or over the phone. Using phone interviews, I was able to reach out to more students in hard-to-reach areas such as in the rural or remote areas who could not independently travel to the interview location. Most students within Vietnam have an active phone number or internet access, so for this study, several interviews were processed via phone, Skype, Viber, or Zoom. The interview protocol used in this study was pilot tested with three cases first and was supported by visually impaired students in Vietnam (Bui, 2016). The interview questions addressed the three main study questions regarding students and the fourth question regarding teachers' experiences and perceptions. First, the interview included information about demographic data of SWVIs, family background, and history of blindness. To address the first research question "What are perceptions of Vietnamese students with visual impairments on their academic experience on campus?", the interview explored the following information: college enrollment experience, available services from campus, service use, adaptation skills, participation in campus recreation activities, and discrimination or stigmatization experiences. The second question "How similar or unique are challenges and

support services that Vietnamese male vs. female students with visual impairments have experienced?” sought information about challenges and services that SWVIs faced in obtaining services and if there were any different treatments based on their gender. The third question interviewed teachers and faculty about services/accommodations they provided to SWVIs and how they can support them to be academically successful. Finally, the last question sought to understand the expectations and recommendations of SWVIs and faculty for higher education in Vietnam.

3.4.3. Collecting Data

Several sources were used to collect qualitative data such as observations, interviews, documents, audio and visual materials, journaling, using text from email messages, using posts on social media, and observing videotapes (Creswell, 2013). The investigator sought an Institutional Review Board approval from her institution before collecting data. All the preexisting data was used alongside the newly collected data.

Gathering the remaining data for this study included several steps. First, I sent a flyer that included a brief description of the study, its aims, and my phone number and email address to public and nonprofit agencies, offices for student affairs of colleges and universities in Vietnam as well as to associations or unions of people with disabilities. I also sent the flyers to disability self-help groups and posted them on social media of associations of people with blindness and disabilities (See Appendix C for the student flyer).

Next, I emailed all potential participants who contacted me a summary of the study with the informed consent which clearly stated their rights to withdraw from the study anytime without any obligations to seek their voluntary participation in the study. The students read over this form through the software that they already have on their computers and replied to me via

email to show their consent to participate in the study. Due to COVID-19, the university required all interviews to be conducted virtually, thus the supplemental data collected from ten SWVIs and seven faculty used phone interviews. When a student agreed to have an interview, I made an appointment with the student providing detailed information on the time and communication form for the interview (phone, Skype, Viber, or Zoom). Each participant was interviewed for about 60-90 minutes and then was asked to be contacted via email for further information or clarification if there is any (See Appendix D for student informed consent).

Students who participated in the study received an incentive of \$5 in cash, which is appropriate remuneration for students in Vietnam. One US dollar = 23,000 Vietnam Dong. Incentives for participants were written in the consent letter and the IRB application. For interviews conducted by telephone or virtually, the investigator transferred the funds via the Vietnam Post Office or phone numbers. They are typical ways of transferring money in Vietnam today.

Data collection from lecturers and faculty has the following steps. First, I sent the flyer to the network of colleges/universities and unions of lecturers and instructors. Like the student flyer, the lecturer flyer also included a brief description of the study, its aims, and my phone number and email address. After I received emails or phone calls from lecturers who showed an interest in participating in the study, I emailed a consent form that included a summary of the study to all potential participants to seek their voluntary participation in the study. Then, I emailed the informed consent which clearly stated their rights to withdraw from the study anytime without any obligations to the lecturers and they replied to me via email to show their consent to participate in the study. Due to COVID-19, the university required all interviews to be conducted virtually, therefore, when a lecturer agreed to have an interview, I scheduled an

appointment in which detail the time and method of communication with the lecturer (See Appendix E for lecturer flyer and Appendix F for lecturer informed consent).

3.4.4. Interview Questions

Appendix G included all interview questions for students and lecturers. The semi-structured interview included 14 questions, designed to gather data on the study's main aims. It included 11 questions for students and three questions for teachers. The first and second questions asked about demographic data and visual impairment. Questions 3 to questions 9 focused on academic experiences of SWVIs such as enrollment experiences, transition challenges, available services on-campus, services being used, adaptation skills, recreation activities, and discrimination experiences if any. In addition, questions 10 and 11 explored barriers that affect SWVIs in obtaining services and examined if these challenges are similar or different for male vs. female students with VI. Lastly, questions 12 to question 14 investigated teachers' and instructors' experiences in teaching SWVIs. The interview sought information about their challenges in teaching SWVIs, accommodation, and support they provided to SWVIs, and changes they wanted to see in the future (See Appendix G for interview questions). Note that the interviews have been piloted with both students and teachers in Vietnam and have been shown to yield rich, analyzable data (Bui, 2015, 2016, 2018a, 2018b, 2019; Bui & Ostler, 2018, 2019, 2020).

In addition to audio-recorded tapes, the interview protocol was also used to document the information (Creswell, 2013). All participants agreed to have the interviews audio recorded. However, I also took notes and kept memos of which were observed during the interview such as participants' appearances, attitudes, physical settings, interactions, and interesting information from the conversations (Siverman, 2017). The audio files were transcribed verbatim, and the

transcripts were encrypted with codes. I also gathered demographic information during the interview. I hired a student with expertise in transcription to transcribe the newly gathered data. By expectations in Vietnam, he received \$15 for the transcription of each interview.

3.4.5. Storing Data

Each participant was given a code. After audio recording, the interview, the audio files, and/or interview notes of each student were stored in an encrypted folder on my computer. The code identifying the student's email address and phone number were kept in an encrypted file and I am the only one who has the code to decrypt the files and the folder. After the audio files were transcribed, they were stored on my computer that has been protected with a password. The transcripts were encrypted and immediately transferred to my iCloud and erased from the computer. I took over the translation of the transcripts of the existing data and the new data. The translations were also stored on that computer. Data including audio files, interview notes, transcripts, and translations were kept in five years. The key links to the code and participants' names were stored in a separate file and will be destroyed within five years after the interview.

3.5. Data Analysis Procedures

Coding is just one step in data analysis in qualitative studies. Creswell (2013) describes data analysis as a process in which data is filtered, coded, and then organized into themes, and finally presented in a comprehensive way for discussion. Maxwell (2013) states that data analysis in qualitative inquiries has not received proper attention. It is usually the weakest part of a proposal and there are not many discussions about it.

To help qualitative inquirers easily visualize the data analysis process, Creswell (2013) proposes the data analysis spiral in which the process begins with the first step, data management, then moves to the next step, reading and memoing. Furthermore, it will be

followed by describing, classifying, and interpreting the data. Data representing and visualizing will be the final step of the process that gives readers a visual image of the information (Creswell, 2013). The purpose of data analysis of case study research is to obtain a detailed description of the case and its settings (Creswell, 2013, p. 199). The case study approach has a unique methodology in its coding and analysis methods, and thematic analysis is commonly used (Creswell, 2013). The setting of the case study is extremely important in data analysis.

For this study, I based my data analysis on the book *Multiple Case Study Analysis* by Robert E. Stake (2006). The data analysis process started during the data collection, transcription, translation, coding, and writing the findings. This study utilized thematic analysis that has been considered as one of the most common data analysis methods because it allows me to view the whole of the case studied by closely interacting with the data (Savin-Baden & Howell-Major, 2013). I used Nvivo software to support coding, analyzing data, and get the word cloud. Through repeated readings of the interview transcripts, I observed the words with a high frequency from the transcripts and notes. It helped me to understand the meanings ascribed by the students regarding challenges and supports they encountered (see figure 3 for the word cloud of interviews with student participants and figure 4 for the word cloud of interviews with faculty participants). After reading over the interviews, I generated a list of descriptive codes characterizing students' responses. Then, the descriptive codes were compared and grouped into themes based on similarities across cases. The field notes were coded in the same way. The coding scheme which depicted the relationships among the codes and themes was developed based on the research questions and the theoretical framework. A codebook that clearly explains the codes was developed to keep coding consistent across the cases (see Appendix H).



Figure 3: The word cloud of interviews with student participants

New emerging codes were added to the initial list by the time. A cross-case analysis was used to compare themes and categories across the cases to see the similarities and differences. In addition, I based on Stake (2006)'s book to create a matrix to generate theme-based assertions from the findings (see Appendix I). I also sought feedback from participants on themes and categories during the data analysis process. Furthermore, I presented my preliminary findings with a couple of senior lecturers and social workers who work with PWVIs to seek feedback on the themes and categories and to ensure that the meaning is understood appropriately. One of the

lecturers studied disability policy in the US and is a well-known disability advocate in Vietnam.



Figure 4: The word cloud of interviews with faculty participants

3.6. Strategies for Maintaining Credibility

Credibility aims to prove that the results of the qualitative study are believable or plausible from the perspectives of the participants of that study (Miles, Huberman, & Saldana, 2013). It also concerns itself with how the inquirer can persuade readers to trust the findings from the study and to evaluate the accuracy of the representation or the report of findings

(Creswell, 2013; Denzin & Lincoln, 2003; Lincoln & Guba, 1985). Creswell (2013) suggests various techniques that a qualitative inquirer can utilize to establish the credibility such as prolonged engagement and persistent observation, peer review or debriefing, clarifying researcher bias, member checking, rich and thick description, and external audits.

The following strategies were used to increase the credibility of this proposed inquiry. The first strategy was prolonged engagement, a technique in which the inquirer spends a long time and intensive engagement in the field to build trust, learn the culture and the context, and check for discrepancies in obtained information and correct it (Creswell, 2013; Lincoln & Guba, 1985). Over many years of my life, I have engaged in and followed activities of youth with visual the social context of the studied subject.

The second technique involves clarifying researcher bias. Self-reflexivity helped me to identify my position in the study. My previous experience in the field also helped improve my understanding of the participants' experience, I did not, however, interview students who I used to teach to avoid the power imbalance.

The next technique is peer debriefing. It refers to the act that inquirers discuss the methods, meanings, interpretations with peers or colleagues who have expertise in the field to receive critical questions about the process of the study (Creswell, 2013; Maxwell, 2013). As mentioned in the data analysis section, I consulted with senior lecturers/advocators with visual impairments who are working with youth with visual impairments to seek feedback on the themes and categories, to ensure that the meaning is understood appropriately.

Another strategy used is member checking. In this approach, a researcher brings the initial findings back to the participants to check if they accurately interpret the participant's views, thus it allows the participants to correct misunderstandings, and provide further insights

(Creswell, 2013; Maxwell, 2013). I invited four SWVIs to give feedback on the summary of the findings and the participants added some insights to the results.

The last technique to improve the credibility of this study is triangulation. It has many forms but generally, it refers to corroborating evidence from multiple sources, methods, investigators, and theories. The purpose of triangulation is to confirm data across resources to reduce chances of associations and systematic bias (Creswell, 2013; Maxwell, 2013; Patton, 2002; Savin-Baden & Howell-Major, 2013). The findings of this dissertation were triangulated because it collected and analyzed data from both students and faculty's perspectives.

3.7. Ethical Considerations

This study involved human subjects; thus, the investigator implemented these strategies to protect human subjects. First, I sought IRB approval before doing research (See Appendix J for IRB approval). Then, the voluntary participation of studied subjects was ensured by obtaining informed consent. The study has minimum harm to human subjects, but I also eliminated possible harms by avoiding undue influence with participants. Moreover, participants' anonymity and confidentiality were ensured by using a coding and key-protected computer for storing data.

The research study was subjected to an ethical review by the Institutional Review Board at the University of Illinois at Urbana-Champaign. The risk to SWVIs was very low since the study focuses on their perceptions about their experiences. In addition, the students were able to decline their participation or withdraw from the research at any time. Participants were informed that they did not have to answer any question that caused them discomfort. I paid close attention to any discomfort that SWVIs experienced and asked them to end the interview if needed. Informed consent was obtained by participants prior to gathering data, and participants had the

opportunity to ask questions about the research. More importantly, coercion and participant deception were not a part of this research and there was no aspect of the study that anticipated harm or risk to participants.

As with any international research, concerns can exist about accurately capturing ideas and thoughts from one language to another. Being a Vietnamese, I can thoroughly understand the culture and language of the participants. All interviews were conducted in Vietnamese, then transcribed, and translated into English. Therefore, there was no issue with the translation. The interview notes were kept in both Vietnamese and English for further examinations. Both versions of the transcripts were compared to ensure concepts are being captured accurately. Finally, I got an IRB approval for my pilot study with SWVIs in Vietnam. For this study, I reapplied for an amendment of the existing IRB.

CHAPTER 4: FINDINGS

4.1. Respondent Characteristics

4.1.1. *Students with Visual Impairments*

This study included 30 youths with visual impairments who were attending or newly graduated from colleges and universities in Vietnam. Of the participants 14 were females and 16 were males. The participants ranged in ages from 20 to 32 with an average age of 25 years. Although studying in the biggest cities of Vietnam, namely Hanoi, Ho Chi Minh City, and Danang, the participants came from 16 provinces/central-level cities that represented different regions of Vietnam. Cities and provinces in the North included Thai Binh, Cao Bang, Ninh Binh, and Hanoi; the Northern Central region were Nghe An, Ha Tinh, and Quang Binh. The central region consisted of Phu Yen, Khanh Hoa, Binh Thuan, Quang Nam, Khanh Hoa, and Danang city. The highland region included Da Lat and Lam Dong. The southern region consisted of Tay Ninh, Dong Nai, and Ho Chi Minh City. If classifying their birthplaces into rural and urban areas, 20 participants were born and lived in the rural areas and 10 from big cities like Hanoi, Ho Chi Minh City, and Danang.

A review of participants' education showed that sixteen participants attended colleges in Ho Chi Minh City, three in Danang, and eleven in Hanoi. Twenty-six participants were attending colleges at the time they were interviewed, and four participants just graduated from college within less than two years. Almost two-thirds of the participants studied four majors, namely psychology, social work, foreign languages, and special education. Other majors included business administration, communication, music, sport, information technology, and law. All participants were attending or freshly graduated from a four-year program except participants who majored in music which was a three-year program, and they were planning to transfer to a

four-year program upon graduation. Four participants were attending international universities in Vietnam: one in Hanoi and three in Ho Chi Minh City. In addition, participants came from 17 colleges and universities across Vietnam: 7 universities in Hanoi, 7 universities in Ho Chi Minh City, and 3 universities in Danang. About two-thirds of the participants were the first child of their families who went to college.

Regarding the severity of visual impairment, all the participants had a severe visual impairment that was defined in the Definition of Terms as the vision remains less than 20%. In this study, most of the participants were completely blind and a few had less than 10% vision. Except for Thinh, the participant who became visually impaired when he was in college due to a traffic accident, the remaining participants learned and used Braille for studying. Several causes led to participants' visual impairment such as cataracts, glaucoma, macular degeneration, uveitis, vitamin A deficiency, bombs, accidents, eyeball shrinkage, seizures, fever, maternal illness during pregnancy, retinal detachment, an eye tumor, and retinopathy of prematurity (ROP).

The onset of visual impairment varied significantly from one participant to another. Four participants were visually impaired at birth but did not know the actual causes. Some developed visual impairment at an early age, while others began to have a visual impairment in middle school or high school. One participant had a visual impairment when he was about to graduate from college due to a traffic accident. Intergenerational visual impairment occurred in some participants of the study. Five participants had another sibling who also was visually impaired.

With regards to living arrangements before and during college, over two-thirds of participants were at boarding schools for students with visual impairment for a few years or lived with students with disabilities in general. In Vietnam, boarding schools are places where students live and study full-time and can only go home to visit their families during the weekend or

holidays. At the time of the interview, over half of the participants rented a shared room in the cities where they lived. About a third of the participants lived at home with their families, and only three participants lived at the dorm. (See Appendix K for a synopsis of each student participant).

Demographic information further revealed the majority of participants came from families that have low socioeconomic status. In those cases, participants shared that their parents were farmers. Moreover, a significant number of participants had a deceased parent, or their parents could not work due to health problems. Demographic information of student participants was demonstrated in Table 1.

Table 1: Demographics of student participants

Name	Gender	Age	Hometown	College major	Causes	Location	College
Thanh	Male	32	Rural	Psychology	Uveitis	HCMC	Domestic
Thien	Male	25	Urban	Business Admin	Uveitis/Corneal ulcer	Central	Domestic
Toan	Male	32	Rural	Law-Economics	Eyeball shrinkage/ retina degeneration	Hanoi	Domestic
Duyen	Female	27	Rural	Psychology	Cataract	HCMC	Domestic
Binh	Male	26	Rural	Japanese studies	Glaucoma	HCMC	Domestic
Khiem*	Male	24	Rural	Music teacher training	Inborn – optic neuritis	HCMC	Domestic
Khuong	Female	30	Urban	Psychology	Inborn	HCMC	Domestic
Trang	Female	24	Urban	Sociology	Unexploded bomb	HCMC	Domestic
Trinh	Female	27	Rural	English translation	Retinal detachment	Hanoi	Domestic
Lan	Female	24	Urban	Business English	Retinal degeneration	Hanoi	Domestic
Lam	Male	31	Rural	Special Education	Inborn – Unknown cause	HCMC	Domestic
Nghia	Male	23	Rural	Folk music	High fever	HCMC	Domestic
Bich*	Female	27	Rural	Special Education	Vitamin A deficiency and ROP	HCMC	Domestic
Anh	Female	24	Rural	Special Education	Uveitis	HCMC	Domestic
Thai	Male	25	Rural	Pre-college	Retinal detachment	HCMC	International
Thinh	Male	25	Rural	Sport training	Traffic accident	HCMC	Domestic
Chau	Female	25	Rural	Social work	Inborn –prenatal Basedow	Hanoi	Domestic
Chien	Male	27	Urban	Info Technology	Febrile convulsions	HCMC	International

Table 1: (cont.)

Name	Gender	Age	Hometown	College major	Causes	Location	College
Cuong	Male	26	Rural	Business Admin	Accident – sharp glasses into eyes	HCMC	International
Thang	Male	26	Rural	Social Work	Congenital cataracts/ retinal degeneration	Hanoi	Domestic
Chi*	Female	26	Rural	Elementary Education	Inborn - cataract	Central	Domestic
Duy	Male	20	Rural	Public Relation	Glaucoma	Hanoi	Domestic
Linh*	Female	22	Rural	Communication	Glaucoma	Hanoi	International
Thuy	Female	23	Urban	International Relation	Eye tumor	Central	Domestic
Huong	Female	22	Urban	Social Work	Inborn-inflammatory maculopathies	Hanoi	Domestic
Lan*	Female	20	Rural	TESOL	Retinitis pigmentosa degeneration	HCMC	Domestic
Hue	Female	27	Urban	Psychology	Retinitis pigmentosa degeneration	HCMC	Domestic
Hai	Male	24	Rural	Social Work	Vitamin A deficiency/ traditional cure	Hanoi	Domestic
Minh	Male	23	Rural	Psychology	Bomb explosion	Hanoi	Domestic
Quan	Male	20	Urban	English Language	ROP	Hanoi	Domestic

*Participants who have a sibling with visual impairments

4.1.2. College Faculty

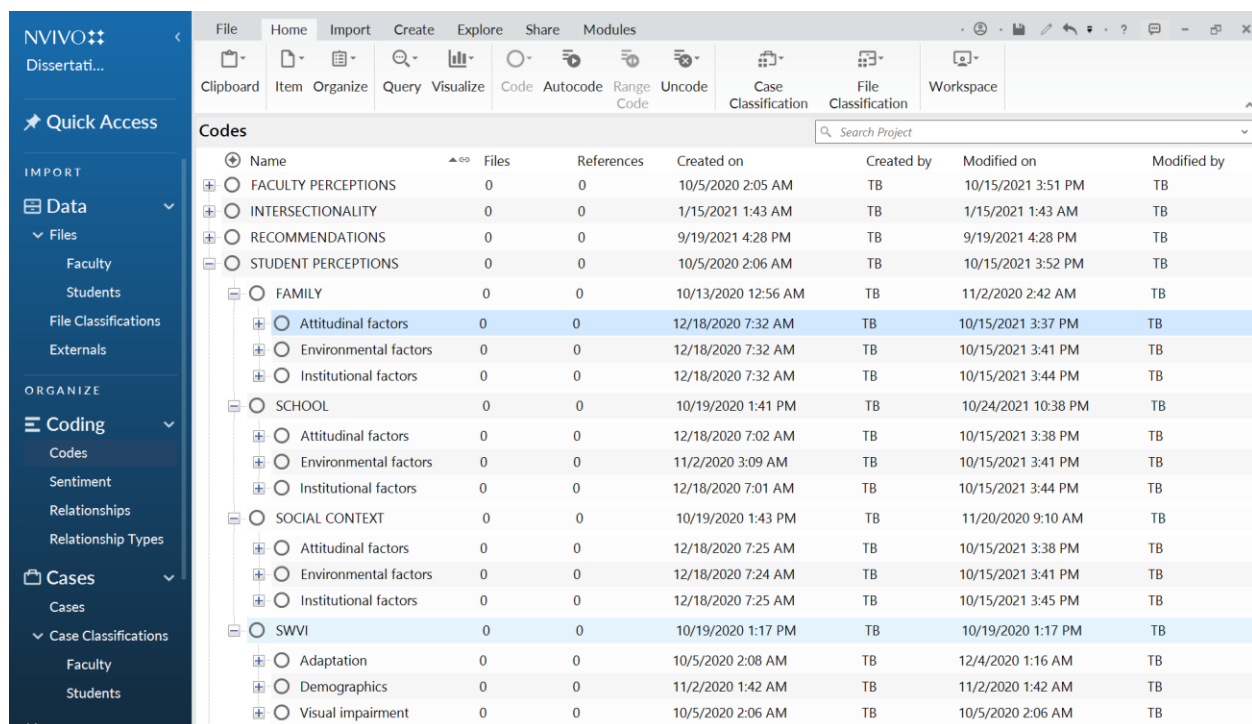
Faculty participants included ten faculty who were working at colleges and universities in Vietnam. Of the faculty participants, six were males and four were females. The participants ranged in ages from 32 to 67 with an average age of 47 years. Five faculty were working for colleges and universities in Ho Chi Minh City, two from Danang, and three in Hanoi. 60% of the participants are deans or associate deans, 40% are lecturers. 80% of the participants work in the social work field, 10% work in special education, and 10% for student affairs. 30% have a Ph.D. degree and 70% have a master's degree. 30% have been working in higher education institutions for 5-10 years, 20% from 11-20 years, 20% from 21-30 years, and 30% from 31-40 years. Demographic information and backgrounds of faculty participants was demonstrated in Table 2. (See Appendix L for a brief synopsis of each faculty participant).

Table 2: Demographics of faculty participants

Name	Gender	Location	Department	Positions	Age	Years in academics
Huynh	Male	Ho Chi Minh City	Social Work	Lecturer	47	8
Danh	Male	Central Vietnam	Social Work	Lecturer	37	12
Tin	Male	Central Vietnam	Social Work & Psychoeducation	Associate Dean/lecturer	56	33
Xuan	Female	Ho Chi Minh City	Social Work & Special Education	Former Dean/lecturer	58	32
Vinh	Male	Ho Chi Minh City	Philosophy & Social Work	Former Dean//lecturer	67	40
Kim	Female	Ho Chi Minh City	Student Affairs	Asst. Dean of Student Affairs	43	20
Bao	Male	Hanoi	Social Work	Associate Dean/lecturer	42	17
Mai	Female	Ho Chi Minh City	Special Education	Associate Dean/ lecturer	46	22
My	Female	Hanoi	Social Work	Lecturer	46	6
Tam	Male	Hanoi	Social Work	Lecturer	32	10

4.2. Research question # 1: What are perceptions of Vietnamese students with visual impairments on their academic experience on campus?

Data analysis revealed multiple factors that influenced the n higher education of SWVIs. Based on the social approach of disability theory and the ecological model, emerging themes were grouped into an individual SWVI, family system, school system, and community system. In each system, the factors were categorized into institutional, environmental, and attitudinal factors (see figure 5).



The screenshot shows the NVivo coding interface. On the left is a sidebar with navigation options: Quick Access, IMPORT, Data (Files, Faculty, Students, File Classifications, Externals), ORGANIZE, Coding (Codes, Sentiment, Relationships, Relationship Types), Cases (Cases, Case Classifications, Faculty, Students). The main window displays a table of codes with columns: Name, Files, References, Created on, Created by, Modified on, and Modified by. The codes are organized into a hierarchical tree structure on the left of the table.

Name	Files	References	Created on	Created by	Modified on	Modified by
FACULTY PERCEPTIONS	0	0	10/5/2020 2:05 AM	TB	10/15/2021 3:51 PM	TB
INTERSECTIONALITY	0	0	1/15/2021 1:43 AM	TB	1/15/2021 1:43 AM	TB
RECOMMENDATIONS	0	0	9/19/2021 4:28 PM	TB	9/19/2021 4:28 PM	TB
STUDENT PERCEPTIONS	0	0	10/5/2020 2:06 AM	TB	10/15/2021 3:52 PM	TB
FAMILY	0	0	10/13/2020 12:56 AM	TB	11/2/2020 2:42 AM	TB
Attitudinal factors	0	0	12/18/2020 7:32 AM	TB	10/15/2021 3:37 PM	TB
Environmental factors	0	0	12/18/2020 7:32 AM	TB	10/15/2021 3:41 PM	TB
Institutional factors	0	0	12/18/2020 7:32 AM	TB	10/15/2021 3:44 PM	TB
SCHOOL	0	0	10/19/2020 1:41 PM	TB	10/24/2021 10:38 PM	TB
Attitudinal factors	0	0	12/18/2020 7:02 AM	TB	10/15/2021 3:38 PM	TB
Environmental factors	0	0	11/2/2020 3:09 AM	TB	10/15/2021 3:41 PM	TB
Institutional factors	0	0	12/18/2020 7:01 AM	TB	10/15/2021 3:44 PM	TB
SOCIAL CONTEXT	0	0	10/19/2020 1:43 PM	TB	11/20/2020 9:10 AM	TB
Attitudinal factors	0	0	12/18/2020 7:25 AM	TB	10/15/2021 3:38 PM	TB
Environmental factors	0	0	12/18/2020 7:24 AM	TB	10/15/2021 3:41 PM	TB
Institutional factors	0	0	12/18/2020 7:25 AM	TB	10/15/2021 3:45 PM	TB
SWVI	0	0	10/19/2020 1:17 PM	TB	10/19/2020 1:17 PM	TB
Adaptation	0	0	10/5/2020 2:08 AM	TB	12/4/2020 1:16 AM	TB
Demographics	0	0	11/2/2020 1:42 AM	TB	11/2/2020 1:42 AM	TB
Visual impairment	0	0	10/5/2020 2:06 AM	TB	10/5/2020 2:06 AM	TB

Figure 5: Nvivo coding for question 1

4.2.1. The Individual System of Students with Visual Impairments

SWVIs are in the center of the ecosystem. Their internal and external characteristics in interactions with the surrounding environment have influences on their academic performance. In this study, SWVIs discussed how individual individual-level factors, including the level of visual impairment, gender, socio-economic status (SES), and adaptation skills impacted their

academic experience.

Level of Visual Impairment. SWVIs who could see a little showed some independence in mobility. On the other hand, SWVIs who completely lost their vision had to depend on a sighted person to walk around campus.

For me, I can see a little bit, about 1/10, so I can find a classroom. Meanwhile, other students completely have to rely on the support of the club members. They cannot move on their own. Sometimes they also have to use their own experience, as well as their sense of taste, to be able to move (Thang, male, 26 years old).

Another participant said that her visual impairment hindered her studying. If she had a better vision, it would help her a lot. “In studying, I think if I have a good vision, I can read more textbooks. I can only read Word files and .thm files on my computer while I can't read other files” (Khuong, female, 30 years old). Similarly, another participant indicated that visual impairment prevented her from participating in extracurricular because she could not travel independently.

I think visual impairment impacts me a lot. The first example is when I'm moving. When I want to participate in any extracurricular activity, I also need someone in my family to help me or I have to use Gojek or Grab (technology motorbike booking service). If I use the bus to travel, I still need someone to bring me to the bus station. That's because I'm not confident and can't join the traffic by myself (Linh, female, 22 years old).

Gender. Gender was another important factor that influenced the education of SWVIs. Females had some limitations with participating in education for many reasons. One reason was the inequality between men and women that has existed for thousands of years in Vietnam. One participant, for instance, confirmed “Usually, families already value men above women” (Trinh,

female, 27 years old). Another participant explained the reason for the inequality in Vietnam:

In my family, there is discrimination against women. But that is the view of grandparents. They think that a son will be the ancestor's worshiper, thus they will give more inheritance. When a daughter gets married, she will follow her husband and is responsible to the husband's family (Chi, female, 26 years old).

Another participant believed gender regulated how men and women behaved in society. She thought men had more power than women. Men were superior while women were inferior.

Between male and female students with visual impairments, males always dominate. Because males are not shy, thus they can easily initiate contact with people, they have more confidence in communication. For females, they sometimes have many limitations. Sometimes they are more likely to have a sense of inferiority (Duyen, female, 27 years old).

Similarly, another participant thought that men were physically and mentally stronger than females thus they could easily pursue their higher education dreams, but women had many difficulties following their dreams due to their physical and mental weakness.

For me, males are stronger than females because females are quite weak physically and afraid to face challenges when going out. Almost all female friends at Nguyen Dinh Chieu school that I know, after graduating from high school they will find jobs that are suitable for their abilities. Not many females want to study higher. Studying higher and working in a highly competitive environment they seem not to like it. Most female friends I know work in the massage industry or follow majors like pedagogy or humanities (Chien, male, 27 years old).

Self-Esteem. The majority of the participants had low self-esteem. They felt sad,

incapable, shy, ashamed, pity, etc. of having a visual impairment. Thanh talked about his feelings of sadness after he lost his vision and started to self-isolate from people. “Since I had sight impairment, I was very sad and had low self-esteem, I rarely made contact with people” (Thanh, male, 32 years old). Similarly, another participant said that she felt shy, ashamed, and withdrew from people.

Well, in school, I see that I am not fully integrated into class with classmates. I feel ashamed, shy. Moreover, I easily get hurt. If I notice that they do not want to contact me, then I don’t want to contact them anymore because I’m afraid of bothering them” (Duyen, female, 27 years old).

In addition, the way society stereotypes and prejudices PWVIs lowered their self-esteem. For example, one participant thought people treated PWVIs as garbage. “I see the common point that they keep viewing... But this is only in Vietnam society, they treat us as something as trash” (Binh, male, 26 years old). Besides, another participant said that she was afraid of using a cane to walk because she witnessed how people stared at something strange.

I am very shy of holding a cane, afraid of the eyes people look at me when I hold it because when I was still able to see, I know that when seeing something strange, people focus on watching it, thus I have never used a cane. I am the only one who is blind at school, so I do not dare to use a cane (Trinh, female, 27 years old).

Socio-Economic Status (SES). Participants directly stated that their family’s economics affected their studying decisions. Many participants wanted to improve their English, but their families could not afford to pay the fees for them to learn English at Foreign Language centers. “If my finances are a little better, I will invest in learning English” (Binh, male, 1994). Another participant expressed her desire to learn English “Second, I also have some economic difficulties

because I also want to learn English, but it costs a lot to learn English. Taking English courses is not free. It should say that I love to learn English, I like it from young days” (Trang, female, 24 years old). That participant also shared that she liked living at the center for the blind because she was given enough food compared to living at home with her mother.

In terms of studying, I feel more difficult when returning home because I received much support from the nuns who devoted time to teaching us. Also, we had decent food when living in the shelter because the shelter receives support from donors. Living at home, my mother also takes care of many things, but our finances are difficult (Trang, female, 24 years old).

Adaptation Skills. Most participants had to learn adaptation skills to survive in higher education. There were several adaptation skills that SWVIs used such as self-motivation, self-advocacy, technology use, independent living, peer support, social skills, and self-determination.

Self-motivation. Several participants shared that their family and friends did not support them in attending college, but they insisted on doing this because they wanted to look for an opportunity to gain knowledge and find a stable job.

I feel going to school is still better, although many people say a college grad is unlikely to have a job, but I think that I just go to school. The first reason is that you will gain knowledge, the second reason is opportunity. What if you have the opportunity? (Duyen, female, 27 years old).

Similarly, another participant revealed her motivation for attending college. “I want to have a stable job after graduating from university. When I go to school I want to study further, maybe graduate school. I want to show my own values” (Khuong, female, 30 years old).

Yet another participant explained that the motivation for her higher education was to gain

financial independence after graduation.

I think that I will finish college, then I will try my best to apply for this position so that I can have a more stable job and consequently, I can support myself and not be a burden for my mother. She takes care of many things. I do not want to make her worry about me anymore, so I try my best in studying and find a job to stabilize my life (Trang, female, 24 years old).

Another participant who received a scholarship for his four-year education at an international college revealed his motivation for studying Business Administration is to create more jobs and improve services provided by PWVIs.

When I study business administration, because in Vietnam there are very few jobs for the blind, when I study business administration that I know about that industry, I will find a direction. The new job can be for me first, then it can help PWVIs, maybe improve the services that the blind are providing, for example, the massage facility systems in Vietnam, I make it more professional, give it a more brand name (Thai, male, 25 years).

Self-advocacy. SWVIs are told that many times they have to self-advocate to get services they need in higher education. One participant shared his experience in receiving support services at domestic colleges. He himself had to take the initiative to ask for help.

I think if I just sit there, no one will help me. Can you imagine that if you didn't open your mouth to talk and ask for help, no one would lead me to the school gate during the early days when I didn't know anyone? It is almost a mandatory skill for us because the university does not convey to students that they should help students with visual impairment. Who wants, they can help. Otherwise, we must take the initiative (Duy, male, 22 years old).

Another participant said that he learned to read legislation documents to advocate for himself.

“In terms of the law, I could read it myself as a large part of legislation texts are available on the internet in the electronic form. I think I have quite a good skill of self-advocating, so I rarely have to ask for any group to speak up on my behalf” (Cuong, male, 26 years old).

Technology Use. Participants believed skills to use technology and assisted devices were useful for SWVIs to reduce their barriers in higher education. Participants stated that computers, laptops, smartphones, voice recorders, headphones, screen reader software, and white canes were devices they used to support their education. One student named the devices she was using “Now I am using computers, telephones and voice recorders” (Anh, female, 24 years old). Another participant introduced software he was using to support his studying. “I use phones, computers, and canes. Phone and computer are supported by screen readers like phone have to Talkback, the computer has Jaws” (Thai, male, 25 years old). One participant described how technology helped him to live independently. “I often find assistance and support from technology, from different departments and offices at school, and the law, finding all the support available to help myself. I’d book a Grab myself to serve my own needs to go around for example...” (Cuong, male, 26 years old).

Independent Living. Most participants thought independent living was an important skill that SWVIs needed to learn because it benefited them in many ways. By learning independent skills, they could go out alone without asking anyone for help. One participant shared the way he learned to navigate around.

When my friends supported me, I asked my friends to describe the path as well as the direction so I can orient and identify the path. From which I utilized the orientation skills I have learned to walk. When traveling alone, if I don't know the way, I can ask people

around the place I need to go. People living independently like me can walk by ourselves.

However, some friends in Ho Chi Minh have family members to support them to travel, they do not know the way (Lam, male, 32 years old).

Another participant believed having skills to do personal chores was also very useful. “I can do all of them myself because at the shelter I was taught by Catholic nuns to wash clothes, wash the dishes, sweep and clean the house, do personal hygiene, and everything. So, I’m very familiar with these house chores. Nothing is difficult” (Trang, female, 24 years old).

Peer Support. All SWVIs confirmed that peer support was the most important skill for every SWVI. The facilities of the campus in Vietnam were not friendly to PWVIs, thus SWVIs had to get help to travel from the gate to the classroom or around the campus. In addition, SWVIs needed sighted friends to read lessons that instructors wrote on the board or PowerPoint presentations when instructors did not read them. One student revealed that his sighted friends read hard copy books for him to record when there were no eBooks for the course. “I bought the books myself and asked my friends to read them so that I recorded or converted them into Word files to access” (Toan, male, 32 years old). Another participant said that all her travels within the campus were supported by her friends. “Usually, my travel from home to school is helped by family members and on-campus depends on friends” (Khuong, female, 30 years old).

Social Skills. Participants needed to have good communication skills to present their challenges with college administrators and to ask for support. One student explained the importance of communication for SWVIs. “It must be the communication skill, I bet so that I can find a friend who can help me. In addition to that, communication skills are very important in letting teachers know what and how to support you too” (Hue, female, 27 years old). Similarly, another participant added that:

The interaction between me and the instructor, classmates, or staff is dependent on me. If I am proactive in my communication, I will have more help, but if I am shy, dare not stand up to claim my rights, or if I do not express my opinion, others will not know what I need and I will have to accept to have less help from everyone around (Minh, male, 23 years old).

Self-Determination. Participants believed that self-determination was among the adaptation skills they needed in college. Families of SWVIs did not support them to go to school after they lost their vision, thus several SWVIs had to have a strong opinion of going back to school. One participant stated that he had to look for a boarding school for youth with visual impairment himself and moved there to study his middle school.

I looked for school myself because my family did not want me to come back to school. They were afraid that I might experience the hardship of living alone away from home and they also did not know which schools would accept me. No one encouraged me because no one wanted to let me go. They hindered me from leaving and told me that I would have many difficulties in learning due to my blindness. However, there was an intense urge to go to school or do something in my mind. I would feel so bored if I stayed at home without friends, thus I insisted on going back to school. Finally, I got it (Thanh, male, 32 years old).

In addition, SWVIs had to be determined when applying for college admission. Many colleges tended to advise SWVIs to study social work, sociology, or special education while SWVIs wanted to study other majors. One participant who received a national award for the literature competition was rejected to study journalism at a top public university although by law the university should grant him an automatic admission, its admission staff advised him to study

social work if he wanted to study there. He insisted that he wanted to study journalism or public relations, thus he applied to another university. At first that university admitted him based on his academic record but then its admission staff also tried to convince him to study social work instead of public relations. The student was denied studying public relations anyway.

On the first day I applied to the school, the staff of the Registrar Office said, I should rethink choosing the Public Relations major. He advised me to choose Social Work because people with a disability are a target population of social work. At that time, my family also advised me to consider it, but I found myself unsuitable for Social Work and my original goal was to study Public Relations, so I was determined to learn it (Duy, male, 20 years old).

4.2.2. Family System

The family system is the second layer of the ecological system and surrounds an individual with visual impairment. This system includes parents, siblings but also grandparents, aunts, and uncles in extended families. Cultural and social norms or institutional factors that influence families are also included in the family system.

Locally Contextual Factors. In the context of Vietnam, SWVIs identified the two key factors in the family system which were gender inequality and gender-focused violence.

Gender Inequality. Locally contextual factors were related to the traditional gender inequalities among Vietnamese families. According to the participants, Vietnam is a prejudiced society that sets up unfair standards for women. Influenced by society, families differentially enforced gender-based rules and norms that disadvantaged women.

I think in the view of Vietnamese society, the responsibility of a man is just to work and earn money. A man with visual impairment can still earn money. Whereas females have

to earn money, take care of children, and do house chores. Male families want their daughters-in-law to take care of communications with relatives as well, thus the chance of females is also low. Males with visual impairment also want to marry someone who can see better than themselves so that they can work without worrying about house chores (Chau, female, 25 years old).

Even a male participant commented on how parents treated girls in the family. “For parents, a boy will be allowed to go out more while a girl will have more restrictions because parents are afraid of this and that and family’s reputation, thus girls are not allowed to have freedom with love and going out” (Thai, male, 25 years old). Another participant expressed her concern about the inequality towards women with disabilities.

Usually, families already value men above women. I was pampered because my family understood that being a daughter is a disadvantage and being disabled is even more disadvantaged. For families who do not understand it, it will be more difficult because of long-time prejudice (Trinh, female, 27 years old).

Gender-focused Protection Against Violence. ISWVIs believed that there was a gender-focused protection against violence in Vietnamese society, thus parents protected girls with visual impairments more. Khiem said that his parents allowed him to go wherever he wanted but not girls “Family and guardians don’t dare to let girls with visual impairment go out alone because the risk of getting lost, being sexually harassed is high. Boys with visual impairment can go everywhere alone” (Khiem, male, 24 years old).

Environmental Factors. Environmental factors in the family system that influence the education of SWVIs include family socio-economic status (parents’ jobs, parents’ education), overprotective parents, siblings’ education, family relationships, and family support.

Family Socioeconomic Status. Family socioeconomic status was a critical factor because it influenced the financial ability of a family to support a child with visual impairment with education. In this study, over two-thirds of the participants stated that their family had low income. A participant described her family financial situation as follows:

Generally speaking, my family has financial difficulties. My father has a slight mental illness and hearing difficulties; thus, he can't work much. My mom is the breadwinner. She sold shoes at the market previously, but the business went down gradually because people tend to buy shoes at big stores or malls. Thus, now my mom works as a housemaid and she can earn only a few dollars a day - less than five dollars (Trang, female, 24 years old).

When the family could not support the participants financially to study, they had to work to earn a living and pay school fees themselves. One participant had to work as a street vendor to cover his higher education expenses.

Since I came back to school, my family only supported me during middle school. Until I entered high school, my father suffered from a severe stroke, thus my family could not support me anymore. I had to work as a street vendor, selling things such as toothpicks, cotton swabs, and household items to make money. In addition, during school breaks such as the Tet holiday and summer holiday I worked and saved money for a living (Thanh, male, 32 years old).

The family financial status was also affected by parents' working ability. A significant number of participants revealed that their mother or father had died, thus the family economics depended solely on a single parent. "My family currently has three people: I, my younger sister and my mother. My father died in July 2002. The family was classified as poor. My mother has

been a factory worker since then” (Binh, male, 26 years old).

This group also included factors related directly to parents and siblings such as parents’ education and parents’ jobs, which influenced the educational conditions of the participants. Although participants did not directly share information about their parent’s education level, information about their parents’ jobs, strongly suggested that the parents had a very low education level because the majority of the participants had parents who did manual work “My father was farming too, but he also worked part-time to plow for other farmers with a buffalo. He also helps others do other casual jobs that they might hire him to do” (Hung, male, 24 years old).

A few participants who lived in the city had their parents working as factory workers or security guards. Less than five participants had parents who had taken white-collar jobs. Parents who had low education tended to lack information about education, thus they could not help their children with visual impairment with schooling. “At that time, my parents were afraid that I would be shocked, so they decided to let me defer my study at school to stay at home for 3 years. In addition to that, my parents also did not know where they could teach YWVIs to have me come and start studying” (Hue, female, 27 years old). Another participant shared that his parents lacked school information, thus they did not let him go out to find a school. “Moreover, my parents live in the rural area, thus they had no information about school” (Thanh, male, 32 years old).

Overprotective Parents. Some parents were very protective. They thought that their children with visual impairment had vision limitations and it would be a hardship for them to live outside the home, thus they did not want to let them go to school without living with the family.

To come back to school, I looked for school myself because my family did not want me to come back to school. They were afraid that I might experience the hardship of living

alone away from home and they also did not know which schools would accept me... I am self-motivated to go back to school. No one encouraged me because no one wanted to let me go. They prevented me from leaving and told me that I would have many difficulties in learning due to my blindness (Thanh, male, 32 years old).

A participant explained how her overprotective parents worried about letting her go out by herself. “Besides, since I was protected by my family from a young age, my parents feared I could not handle unexpected cases alone” (Hue, female, 27 years old). Another participant thought that the risk was high for girls with visual impairment, thus their family did not want them to go out themselves. “Family and guardians don’t dare to let girls with visual impairment go out alone because the risk of getting lost, being sexually harassed is high” (Khiem, male, 24 years old). However, for males with visual impairment, their parents also overprotected them.

My hometown is in the countryside, so accessibility to support services for people with visual impairments is still poor. When I went to school, I had an intention of going to Hanoi to have better study conditions, but at that time my parents were still worried and did not want to let me live far away from my home. I had to study with my peers in my hometown (Thang, male, 26 years old).

Siblings’ Education. Siblings’ education was another influential factor. If participants had siblings who graduated from college, they might receive encouragement from their siblings to attend college. In this study, approximately one-third of the participants had a sibling who went to college. One female participant expressed the emotional support she received when having a sibling who also went to college. “But like me, I find myself inspired by my older sister who got the master’s degree and was supported a lot by my family. I have a close friend of mine, when I was in high school, I had the same problem, but she didn’t have much support from her

family” (Linh, female, 22 years old). However, most participants were the first generation of their family who attended college. “I am the only one who goes to college. The rest of the brothers and sisters completed grade 12th and then started working to help our parents” (Chi, female, 26 years old).

Family Relationships. Family relationships also played a critical role in the family system of individuals with visual impairment. Some participants felt belonging and bound to their families when they had a good relationship with family members. They visited their family regularly or shared with their parents and siblings their sadness or happiness. “I have a very good family. They give me better conditions to help me feel a better and perfect life” (Thuy, female, 23 years old).

In my family, my relationship with my family is very good. Because my parents always think openly, they are also a bit proud of my sister and me. Sometimes I also have a bit of pressure, so I have the motivation to try harder. Since my parents are always proud of me, I always try to make them happy (Bich, female, 27 years old).

However, not all participants had a good relationship with their families. Some participants had conflicts with family members and did not connect well with their families.

I have two siblings in my house. My brother is grouchy, and I am quite skillful in my words, so it is not suitable for the two of us, and we are not very close. My parents divorced when I was in 11th grade and have a family of their own. I rarely go home because when I go home, I feel that I am not part of the family. If I go home, I stay at my aunt's or uncle's house, because there I feel more part of the family (Cuong, male, 26 years old).

Family Support. Family support was a key, overarching factor in the family system. It

affected the educational journey of the participants. There were multiple forms of family support ranging from financial support to emotional support, namely paying school fees and accommodations, taking the participants from home to school and picking them up from school, reading textbooks for the participants to take notes, and helping with the transition to campus.

Since I was in high school and university, I used to study the whole day at school, so my mother took me directly to the school. A friend will wait outside the gate to lead me into the classroom. After school, my friends bring me to the school gate and then my family members come to pick me up (Khuong, female, 30 years old).

A participant shared that her mother helped her to move into her rental apartment and guided her to navigate the way during the first few days of the school year. “My mom could help me to go to school during the first few days when I was afraid of going alone. My mom also led me to buy food, then to classes” (Trang, female, 24 years old), or participants showed the emotional support that he received from their family “Usually I share my sadness with my mother” (Thien, male, 25 years old).

Interviewer: If you think you bother your friends when they read for me to take notes, how did you write down your notes when you borrow their notes to bring home?

Participant: I asked a family member to read it for me to write them down (Khuong, female, 30 years old).

Attitudinal Factors. Data analysis showed emerging themes for family attitudes towards SWVIs as a lack of disability awareness from family members, negative attitudes, and discrimination within the family.

A Lack of Disability Awareness. Awareness of family members, especially parents and siblings, influenced the support they gave to their child with visual impairment. If family

members had a good understanding of disability and understood the importance of education for individuals with disabilities, they provided financial and mental support to their child with visual impairment to pursue education. The opposite was also true. Most of the parents of the participants in this dissertation had a low awareness of disability, thus they delayed sending their children with visual impairment to school. As a result, most of the participants did not go to school at the designated age or started school a few years later than their classmates. Even one participant only started his primary school when he was 12 years old.

I was born blind. From a young age, the first thing is that at that time my countryside was also poor; the second thing is the awareness of my parents. They realized that I was blind, thus they did not dare to let me go far. Until 2001, there was a congregation near where I lived that opened a class to teach children and some nuns introduced me there to study (Lam, male, 31 years old).

Due to having low awareness of disability, some parents hid their child with visual impairment at home and thus jeopardized their child's opportunity to study. "But there are also some families who are shy and want to hide their visually impaired child from everyone, so they rarely allow their child to communicate outside whether they are male or female" (Bich, female, 27 years old). In addition, it is difficult for a child with visual impairment to go to school and the challenges will be doubled or tripled if the child is a girl or belongs to an ethnic minority group.

As I said before, the blinds have many difficulties with going to school. The biggest difficulty in the family is caused by parents' awareness. If they don't want their children to go to school, the road to school will be very far for children with visual impairment. For female friends and ethnic minority friends, their school attendance is even more difficult because of prejudice from parents, prejudice overlaps prejudice. In addition to

the stereotypes about disability, there are also stereotypes about gender and ethnic stereotypes (Duy, male, 20 years old).

For higher education, it was more challenging for participants with visual impairment because their parents would not agree to let them move out of their hometown to study. The parents did not believe in their children's ability to complete college and find a job after graduation. "I went to the city alone. At that time, my family disagreed, but I tried my best to ask my parents to go to Hanoi to study" (Thang, male, 26 years old). In another case, a participant shared that he knew many families did not want their children with visual impairment to attend college. "Even families of students with visual impairment that I know don't support them to go to college" (Quan, male, 20 years old). Another participant experienced several pressures from her father before and during her studying in college. First, her father did not agree to let her go to college regardless of her good GPA in high school. Then, when she insisted on attending college and was studying in the city, her father kept calling her to ask her to quit.

In my first year away, my father did not encourage me to stay in the center and kept phoning to tell me to go home, even when I had to quit the study at the Pasteur College of Medicine and Pharmacy after all the ordeals of my eyes. My father told me to quit school and go back home to help my parents with cooking, "what's good in there with your study", despite which I decided to stay on in Nhat Hong Center (Hien, female, 20 years old).

While numerous participants experienced discouragements from parents for higher education one participant felt lucky when her parents encouraged her to attend college. "I am fortunate to have my parents who create the conditions for me to study and allow me to make decisions in life myself. It is also my decision to study foreign language based on my preference"

(Trinh, female, 27 years old).

Negative Attitudes. Some parents had negative attitudes about visual impairment and the ability of their child with visual impairments. They believed attending higher education would not help their child with visual impairments have a career, thus they did not support the child attending school. “Many friends who had to stop studying after middle school to work as a massager because their parents thought despite the high education they could not do anything with their visual impairment, thus parents did not allow their children to continue their studying” (Trinh, female, 27 years old).

SWVIs also underscored the lack of other forms of care and support by parents. For instance, they did not provide any guidance about sexual health for their child. Another SWVI shared that his parents made fun of him wearing underpants when he reached the puberty. He told his mother to buy him underpants, but his mother forgot, thus he bought them himself and hid them from his mother.

When my mother pulled my clothes out to check, she treated it as something funny and she went out to talk about it with many other people for a laugh. I felt very bad about it as for me, it was something very private, but it was made fun of, so I just decided to quit sharing completely. So, when my father did it to me, I became very negative and launched myself into a very big argument with him. But he was very patriarchal and just put out all my points with violence or by shouting over it. I felt very sad then. I couldn’t continue coming to school. I felt like I was stuck in the four walls and my parents (Cuong, male, 26 years old).

Discrimination and Stigmatization. Participants stated that discrimination against a child with visual impairment was very common in Vietnam. Some parents

treated the child with visual impairment differently from other sighted children.

“Perhaps, children with disabilities have been treated like a different type of child” (Linh, female, 22 years old). In some cases, parents felt ashamed of having a child with visual impairments, thus they wanted to hide that child from everyone. As a result, that child became invisible in the family and community. One participant revealed, “But there are also some families who are shy and want to hide their visually impaired child from everyone, so they rarely allow their child to communicate outside whether they are male or female” (Bich, female, 27 years old). Similarly, another participant shared that her neighbor kept their daughter with visual impairments in the room when they had visitors and denied their biological relationship if anyone saw them being together.

I know some families that have a child with visual impairment, whenever having a visitor, they kept their child in a room and did not want to let others know that their child is visually impaired, or when the mother and her daughter were walking on the street and meet others, she said the girl was her niece but not her daughter (Trinh, female, 27 years old).

In addition, some families discriminate against a daughter with visual impairment if they have both a son and a daughter with visual impairment. For instance, both Hien and her younger brother had a visual impairment, but her father did not request her brother do anything but her. However, she thought that it was not a discrimination that the father loved sons more than daughters.

My youngest brother, who is also visually impaired is currently in grade 9. His eyesight is quite good; however, he doesn't study hard as he should and only likes to spend time

playing games. My father did not let him do anything... At home, my youngest brother doesn't have to do much, if not any at all, house chores... As for the younger brother who is not visually impaired, since childhood, my father has loved him a bit more than me (Hien, female, 20 years old).

Moreover, families would let males with visual impairment go out to study and participate in social activities but females. "As I see it, male friends will have more freedom to go out" (Hue, female, 27 years old). Perhaps parents either worried about the safety of their daughter with visual impairment or undermined the girl's education. "There are more male students than females as far as I know. It is so because in part of a very protective attitude of their family resulting from their fear of bullying, and in part of the mindset that girls don't need to study too much but should just stay home and wait until their marriage-age" (Quan, male, 20 years old). Another participant also had the same explanation why the family did not support their daughter's higher education.

The difficulty, I think it's just related to prejudice. When we went to school, the family rarely supported us. For the girls who went to school, they had less support from family. Their family even disagreed or did not allow them to study because people thought they were girls, and they were blind thus they didn't need to learn much, and they wouldn't be able to do anything after finishing school. Therefore, the opportunities for blind girls to learn and access knowledge will face more difficulties than the visually impaired men (Duy, male, 20 years old).

4.2.3. School System

The school system includes factors that are related to obtaining higher education of SWVIs. The factors include institutional factors, environmental factors, and attitudinal factors.

Such factors are important because they help identify strategies for each type of barrier. In this study, four students attended international colleges; 26 students studied at domestic colleges. Overall, the findings showed that SWVIs who studied at international colleges had different experiences with the school system from their peers who studied at domestic public colleges.

Institutional Factors. The data analysis revealed that institutional factors in the school system were best categorized into the following themes: institutional disability policies (including an office for disability support services and disability training for faculty and staff), admission rejection, and inappropriate assessment criteria.

Institutional Disability Policies. All international colleges had an institutional policy that clearly described support services for students with disabilities. At each of those colleges, an office was mandated to accommodate the needs of students with disabilities. The office and its staff served as a liaison between the students and their instructors. Students with special needs had to contact this office to state their needs to be accommodated and the office for disability support services worked with the instructors to provide accommodation to those students.

At my college, there is a department with fair learning services. If I have difficulty with documents, they will transfer the documents to me. There are some Word files that the screen reader cannot access, then the staff will convert them into a format that is more accessible to me (Thai, male, 25 years old).

International colleges paid attention to supporting students with special needs and included it in the institution's strategic plan. As a result, they allocated resources to support students with special needs, thus students with disabilities studies at those institutions almost had no challenges with accessibility.

From 2016, my college set the goal for their five- or ten-year strategic development

around encouraging equitable education and inclusion in Asia. They aim to be the leading institution to provide an environment with inclusion and equal access to education. They allocate a greater portion of their budget to support the success of students with disabilities such as purchasing licenses of programs to help students with dyslexia, buying equipment to help students with low-vision, or screen reader licenses for students with visual impairments (Cuong, male, 26 years old).

In contrast, domestic colleges did not have a specific policy to support students with disabilities. Even the national law on persons with disabilities only states in general that the State has the responsibility to create conditions for persons with disabilities to obtain an education that matches their needs and ability. The national law does not indicate any measurement of the implementation of education for persons with disabilities. Therefore, in the student's handbook, colleges spared a few sentences stating that the institution and departments would create conditions to support students with disabilities.

Due to a lack of disability policy, no office or unit provided support services for students with disabilities at domestic colleges. At some domestic colleges, students created student-organized clubs where volunteer students would support students with disabilities when needed. Whereas, at other universities, the Youth Union would send volunteer students to help students with disabilities when being requested. "My university has a volunteer club, in which there is a support committee for people with disabilities. In case we need help, we can ask for it, but it is not enough" (Lan, female, 24 years old).

Admission Rejection. Although the disability law recognized the rights for education of PWDs, universities could use several reasons to deny admission to SWVIs to study some majors such as computer sciences, journalism, public relations, and foreign languages. One student

shared that ten public universities rejected her applications to study at the Department of English Language at their institutions due to her visual impairment before she received the admission to study at the current private university with higher tuition.

As to the reason why I chose this university — as if I'd have a lot of choices, it is the lack of possibilities. I asked a total of ten universities and colleges for an affirmative admission confirmation to no avail. While this university was the 11th university on the list, it is the first to agree to enroll me. Some universities will not enroll SWVIs to the Department of Foreign Languages by any means (Hien, female, 20 years old).

Another SWVI who finally studied at an international college shared his painful experience of his application to study at the Department of English Language being rejected. He brought his application to the Registrar's Office and staff asked him to withdraw his application because the staff thought he was not able to study with his visual impairment.

When I went to the University XXX to lodge my application, the person in charge of the Registrar's Office told me that how in the world I thought I could study at the Department of English Language that I wanted to lodge my application there. I insisted I could and after a while, he said that he would only proceed to receive my application because it was his duty to do so, but for the Department of English Language, they would not accept my case (Cuong, male, 26 years old).

Even SWVIs who received national awards could be rejected to some majors of public colleges. Duy shared his sad experience of being rejected for an academic-record- based admission to study Journalism at a public university despite he had a National Award for Literature:

When I applied to universities, I chose to study journalism at a university in Hanoi.

However, at that time the school required me to submit a certificate of extremely severe disability, but my disability was only categorized as severity. The school did not view my transcripts and extracurricular experiences. For students with disabilities like us, the school only needs a certificate of extremely severe disabilities, so the Registrar's Office of the university rejected my application. I did search the law on admission for students with disabilities. According to the law, only students who have the certificate of exceptionally severe disabilities are eligible for full admission, while for those with severe disability, the law regulates that they will be added some advanced points or reviewed for admission. Because of the word "or", being admitted or not is up to the mind of the school administrators (Duy, male, 20 years old).

Inappropriate Assessment Criteria. The current academic and training assessment standards were not appropriate to SWVIs because due to their visual impairment SWVIs could not participate in campus activities that focused merely on sighted students. At public colleges, students' training performance was assessed based on five standards: GPA; compliance with institutional regulations; participation in social, political, and cultural activities on campus; civic engagement in the community; and participation in Youth Unions and university-based organizations. Students' training performance scores were used to grant scholarships and awards across the campus. However, SWVIs stated that they wanted to participate in the Youth Union, university-based organizations, and other social activities but they could not do it because those activities were not appropriate to their disabilities. As a result, they did not receive a good training performance score. One student shared her experience with the training score: "I could only participate in a few activities at school. There were many activities, for example, volunteering, I could not join, thus my training score was also low" (Bich, female, 27 years old).

Another student had a similar experience with the training score when she could not participate in the Youth Union.

Interviewer: Well, if you don't participate in Youth union activities at school, will you lose points for that activity?

Participant: Yes, yes, if I don't participate, my training score will be low.

Interviewer: Does the training score affect the academic performance?

Participant: Yes, it affects my graduation scores and my behavioral scores in the future (Anh, female, 24 years old).

Another student indicated that the inappropriate assessment standard disqualified her from the university scholarship because she was not an active member of the Youth Union which is a political organization to prepare youth for the Communist Party. “I am not eligible for a scholarship from the school, which requires an achievement with high scores, and I must also be actively joining the Youth Union, but I’m not very active” (Hue, female, 27 years old).

Environmental Factors. Environmental factors included factors that directly affected the education of SWVIs in colleges such as services, facilities, learning materials, library, participation opportunities, transportation, and testing formats. The learning environments were significantly different between international and domestic colleges. At international colleges, SWVIs enjoyed a relatively resourceful environment whereas SWVIs at domestic colleges experienced many barriers that hindered their equal participation in higher education compared to their non-disabled peers.

A Lack of Support Services at Domestic Institutions. While there was a lack of support services at domestic institutions, SWVIs at international colleges shared their enriched experience with multiple services offered by their institutions such as accessible learning

materials, alternative testing formats, tutoring, psychological counseling, and cultural adaptations. Before the registered courses started, staff of the office for disability resources met students with special needs and discussed with them about their needs for textbooks, learning materials, and testing formats so that students with special needs were accommodated for their needs during the semester. One student recalled his experience with accommodation at his college.

For me basically, the lecturers at XXX college supported me very well. If they take notes on the board, the lecturers also make a Word file and send the daily summary directly to the student. Any documents that they think are needed for that subject, they will also send them to me. When there are documents, they will also send me very quickly. In my opinion, compared with other blind students studying at some universities in Vietnam who have some difficulties: one is about the materials, the second is the lecture, and the third is about the exam. For all three of these problems, XXX college met our needs very well (Thai, male, 25 years old).

Another student at an international institution also described a tutor, counseling, and cultural adaptation services at her college.

In addition, I use the tutoring service “Student Assisted Services”. There will be students with a high distinction score, and they will take on the role of a tutor. You and your instructors can be English tutors within your majors or skills. In addition, at first, I also booked services for psychological counseling and school culture. I also book the services of the library because the library will directly support our documents (Linh, female, 22 years old).

At international colleges, SWVIs seemed to not have any problem with learning materials. One

student shared her experience with textbooks.

When I studied at XXX college, I received full support in terms of textbooks. When I need any materials, I will contact the library or the support office for help. Usually, we will use textbooks on the computer (e-books). And in reality, we will receive books only a little bit later than sighted students because the school needs time to convert the materials prepared by lecturers from an inaccessible format to an accessible format. However, that doesn't affect me much because when we do our homework or when we write essays, we can ask for an extension (Linh, female, 22 years old).

At one international college, the office for disability support services even provided a personal aide for the student with visual impairment. The personal aide helped the student to take notes and travel around campus.

At XXX college, we will have a service called “student aid”. Every day when we go to school, there will be fellow students who are hired to help me get into class and support my school activities. After that, those “student aid” friends will also be with me in class and help me copy or explain slides with pictures. Because of the "student aid" service, my access to education at school is quite convenient (Linh, female, 22 years old).

Nevertheless, SWVIs at domestic colleges presented with multiple-layered challenges in higher education due to a lack of services at their institutions. Most SWVIs at domestic colleges stated that there was no support service at their colleges. “No, there wasn’t any support service from the college” (Khiem, male, 24 years old), “In general, I haven’t seen any services yet” (Khuong, female, 30 years old), “The university doesn’t have any service or any other similar kind of support to convert hard copies of learning materials into accessible electronic formats (Hien, female, 26 years old). Another student stated that his college did not intervene when he

could not ask for learning materials from lecturers. “Besides changing the exam format to suit the type of disability, there's nothing else. Even though we lack learning materials due to our inability to read printed materials and unable to get them from lecturers, the school has no idea” (Duy, male, 20 years old).

Some students even had never heard the term “support services”.

Interviewer: Are there campus services for students with special needs?

Respondent: What is service?

Interviewer: Is there any support for visually impaired students or all kinds of disabilities on campus?

Respondent: I think that there are only scholarships or tuition waiver/reduction (Duyen, female, 27 years old).

Inaccessible Facilities at Domestic Institutions. While most facilities were accessible at international institutions, SWVIs stated that they faced accessibility issues at domestic institutions. For example, elevators and classrooms at international colleges included Braille and the sidewalks were clear of obstacles. “The Braille symbols are on elevator control panels. I can watch the time to the floor that I get used to. There are a few floors so it’s easy” (Chien, male, 27 years old).

In contrast, facilities at the public institutions were not friendly to SWDs as well as SWVIs. Most SWVIs at domestic colleges said that their institutions did not have elevators at old buildings but at new buildings. However, the elevators did not have Braille or voice announcement, thus they could not use it unless there was a sighted student to help them.

Respondent: I have to walk; I do not take the elevator.

Interviewer: Why do you have to walk without taking the elevator?

Respondent: Because the school's elevator didn't have any voice announcement, thus I don't know the level. That's why even though I study on the 8th and 9th floors, I still have to walk (Bich, female, 27 years old).

Another participant said that the elevators of his college were inaccessible for SWVIs thus he always climbed the stairs to his classroom. “The elevator doesn't have Braille; thus, I don't know what to press. I always climbed the stairs” (Duy, male, 22 years old).

Next, SWVIs of domestic colleges believed their campuses were inaccessible. Even sighted students faced difficulties in commuting around campus because the pathways were occupied with cars, motorbikes, trees, and obstacles thus they could not walk alone and had to depend on a sighted friend to lead them. One student expressed her frustration about inaccessibility at the campus:

First, public places such as the cafeteria need to be improved. Even though sighted students have difficulties going there, non-sighted students definitely have more challenges. It's very crowded and not easy to navigate to get there. It's hard for me to go to the cafeteria. I always asked a sighted student to lead me to get there. Second, mobility orientation. Sometimes there are a lot of obstacles on the way such as cars, motorbikes, etc. so it is so difficult (Duyen, female, 27 years old).

Another student said that her campus's design was a challenge for her to walk from the gate to her classroom alone.

I find the campus very difficult to move around. This facility is designed as the structure of a hotel. The stairway leading to the floors above is a lot crooked and the steps are uneven. Some steps are very high, and some are very low. The steps at crooked corners are of triangle shape where one end is big and the other is very narrow. I often miss those

steps. This design prevents me from entering the classroom by myself. I have to ask a security guard or a sighted student to lead me to the classroom (Hien, female, 20 years old).

Inaccessible Learning Materials. According to SWVIs, their biggest challenge was a lack of accessible learning materials. Textbooks had only hard copies, thus SWVIs had to buy the hard copy of the textbook, then get it scanned and converted into an accessible format such as PDF or Word. Sometimes, they asked a sighted friend to read the textbook for them to take notes or bring it to the audiobook library so that the audiobook library made an audiobook for them. The process to get learning materials was so costly because they had to pay for the services if they could wait for the free services offered by non-profit organizations. One student said that the free scanning services took so long that she received the scanning book at the end of the semester, and she did not have enough time to read it for the final exam.

Sometimes I have to buy a printed textbook and bring it to Sao Mai Center for scanning and converting it into an accessible format. But it takes too long to wait for the scan to be done. When I receive the materials back, it's the time I take the final exam, so I don't have enough time to read the textbook (Khuong, female, 30 years old).

In addition, sometimes the scanned version of the textbooks had many errors if the hard copy was blurred or had many images. One student shared his current strategy to acquire learning materials.

I also had some difficulties with learning materials. I had to buy a book and then go to the photocopy store to get the book scanned into a file to read on the computer. Some documents are prepared by lecturers, so I had to ask the lecturers to get a copy of them. If the lecturers didn't give them to me, I had to ask a friend to read them for me to write

down or search for more documents from other sources (Khiem, male, 24 years old). Another student thought lacking access to learning materials prevented them from obtaining knowledge as much as sighted students.

I only need materials. Currently, I haven't interned so I don't know how an internship looks like. But now I'm studying several courses, and I need to read a lot. For my major, I need to read a lot. If there are materials, then I can have a lot of knowledge, and then when I am more knowledgeable, I can also exchange it with classmates to change their way of viewing visually impaired students. They think visually impaired people don't know many things (Trang, female, 24 years old).

Both international and domestic colleges offered scholarships for SWVIs if they met certain criteria such as good academic performance and participation in social activities. Recently, most international colleges offer a few scholarships for students with disabilities. All four SWVIs in this study won scholarships for their excellent academic performance.

I have a full scholarship, so I don't have any difficulty with tuition fees. In a year my institution has two full scholarships for students with disabilities or students with difficulties. In the past, my English was zero, but my academic performance was also good. I participated in social activities, and I built a project to set up a job search website for the blind. I have a specific goal, a specific direction in my life. How do I convince people of my goal? If it's feasible, people will also give me a scholarship (Thai, male, 25 years old).

At public colleges, SWVIs from families that were at or near the poverty line received tuition waivers. In addition, public colleges also cooperated with funders to offer some scholarships to SWDs. One student shared her news about the fellowship she received at her

college. “There is a scholarship that I am receiving at University XXX, but it’s not sponsored by the university, but by a sponsor in the city Labor Union” (Khuong, female, 30 years old).

Another participant shared her happiness when she won a scholarship because it helped her to pay the tuition. Her family was poor, but she could not receive a tuition waiver from her private college. She applied to the English Department of a public university, but that institution did not grant her admission due to her visual impairment.

I called to let my father know the situation only to hear from his questions about why tuition has to be that expensive, and that he doesn’t have any money to pay. Fortunately, I won a full scholarship for the tuition, so it is no longer a concern. After that, my father did not ask anything about tuition nor did he ask anything about my studies (Hien, female, 20 years old).

Inaccessible Libraries at Domestic Institutions. A huge difference existed between the libraries at international colleges and domestic colleges. The libraries at international colleges had higher accessibility than those at domestic colleges. The libraries of international colleges were digitized and had services to convert printed books into an accessible format. Thus, SWVIs could easily access the materials, although sometimes some e-books were embedded with third-party resources built on Adobe Flash that lacked accessibility standards. In that case, the institutions had to send a student aid to support SWVIs to access the materials. “The library also provides support by helping to convert learning materials to an accessible format to special needs students when needed. They will provide support in accordance with the specific needs of each student” (Cuong, male, 26 years old).

However, most SWVIs from domestic colleges stated that the libraries at their institutions were inaccessible. They rarely or did not use the library at their institutions because it did not

have eBooks, Braille books, computers with a screen reader, or scanning services for their courses. One student illustrated his library: "As I have told you, the materials in the library are completely in the form of printed books, so we cannot access" (Thang, male, 26 years old).

One participant explained the reason she did not use the library except with classmates for group assignments.

I don't go to the library because the library has only printed materials and no soft files. Computers have no screen reader thus I can't use them. I can only ask friends to read materials for me. However, it's difficult to study something thoroughly when asking friends to read for me, therefore I only went to the library a few times together with classmates to search for materials for group assignments (Chau, female, 25 years old).

Although some domestic colleges began to digitize their libraries, they were still inaccessible for SWVIs. One student discussed about her school libraries.

There is a small library in my university, but in the library, there are only printed books, no Braille books, so I have never been to the library. In addition, they also have an electronic library system, but I haven't been able to access it yet, so I still cannot use the electronic library (Hien, female, 20 years old).

Usually, students had to buy a print textbook and bring it to Sao Mai Center, a nonprofit organization, to have it scanned and converted into an accessible format. However, due to a large number of scanning books, Sao Mai Center could not meet the needs of SWVIs. They received their scanned books so late that they did not have time to read them before the semester ended.

But sometimes I don't have those textbooks. I searched all the time on the Internet but did not have the textbooks required by the lecturers. Sometimes I have to buy a printed textbook and bring it to Sao Mai Center for scanning and converting it into an accessible

format. But it takes too long to wait for the scan to be done. When I receive the materials back, it's the time I take the final exam, so I don't have enough time to read the textbook (Khuong, female, 30 years old).

Lack of Opportunities for Participation. SWVIs at domestic colleges opportunities for participation. Some participants said that their institutions gave them an exemption for physical education and defense education instead of modifying the curriculum. One student believed that she could take physical education if the institution changed the way the course was instructed.

Interviewer: In your opinion, which courses should be exempt, or what courses you cannot study?

Respondent: In my opinion, physical education has some subjects such as badminton, or swimming, or shooting, etc. I think it's not that people with visual impairment can't do that, but because we study with sighted people, we can't keep up. Some persons with visual impairment can swim and play badminton. But they must learn and be trained in an environment of people with visual impairment together (Anh, female, 24 years old).

One student remembered being excluded from a field trip because her instructor worried that she might fall and slower the speed of the group when taking a bus. "I really wanted to go on the field trip, but they gave me an exemption. They said they worried for me, I could fall, thus I should stay at home" (Trang, female, 24 years old).

SWVIs also believed that they did not have equal opportunities to participate in academic activities. Another student shared that her group mates did not allow her to do anything during her fieldwork.

When going to fieldwork, the most difficult part was that new friends did not understand me. When I went to practice, I should have had contact with children and played with

them to have the experience to write the report, however, they did not support me to interact with children and forced me to sit in a corner because they were afraid that children would make me fall. They also did not describe to me children's activities (Anh, female, 24 years old).

Besides, SWVIs pointed out that most social activities at their colleges were inappropriate for SWDs. One student stated that "The campus only has activities for sighted students, those activities we cannot participate in. Sometimes I want to participate, but it's difficult to participate" (Duyen, female, 27 years old). Another student was denied participating in some skill clubs on campus due to her visual impairments. "I also wanted to participate in some skills clubs like communication and problem solving but also because of my limitations so I was not allowed to join the group. I do not know how to get engaged" (Trang, female, 24 years old).

Inaccessible Transportation. SWVIs at both international and domestic institutions in Vietnam encountered challenges with transportation. They needed someone to help them to get on and off the bus, however, sometimes people at the bus stations or bus stops did not respond to their request for help. One participant recalled "I had to ask someone who was on the bus to catch the bus and help me get on the door. The difficulty is that when I came to the station, I did not know who was there. I could not determine where they stood for me to ask or someone I called, but they did not respond" (Trinh, female, 27 years old). Another student also felt challenged to use public transportation because the bus stations were not accessible for people with visual impairments. She had to depend on anyone she met at the bus stop to help her catch the bus but sometimes that person forgot to help her, and she had to wait there very long.

Getting on the right bus is also a challenge. I need to ask a motorbike taxi driver nearby or some people who happen to be around to hail the bus to stop. Some people would

gladly agree to call the bus and help me in. Some other people did agree, but after that they forgot, or they were too busy. I didn't even know to go to someone else for help, I just kept waiting (Hien, female, 20 years old).

However, some participants could not use public transportation as they had to catch multiple buses for each trip to go to school. In those cases, they had to use a motorbike taxi which was expensive. One participant shared "I can't walk to school; thus, I have to ride a motorbike taxi which is also a big expense" (Duy, male, 20 years old).

A Lack of Accommodation for Testing at Domestic Institutions. SWVIs at international institutions were given accommodation for testing. One student informed me that the office for disability support services included him in accommodating his needs for taking exams.

At the beginning of the program, SWVIs and the staff of the office for disability support services discussed the assessment plan in which detailed how each SWVI wanted to be assessed and types of individual supports such as assessment mode, extended testing time, private testing room, etc. (Cuong, male, 26 years old).

SWVIs said that lecturers were very flexible with selecting an alternative assessment format for SWVIs. Most SWVIs said that their lecturers gave them oral exams or essay format exams. Some lecturers made a copy of the exam questions on a USB, and SWVIs brought their laptops to the exam room, worked on the exam, saved it in the USB, and submitted the USB to the examiner. "Yes, I'm also very happy that my department allowed me to take oral exams. I have never taken an exam on a computer. From the first year until now I have not had any exam on a computer. I was allowed to take oral exams for both major and general courses" (Trang, female, 24 years old).

However, some SWVIs were not satisfied with the testing format that they were having.

They felt it was unfair for them because they were not given extra time for testing compared to their sighted classmates. For the test that multiple-choice questions their sighted classmates only needed to read and select the answer on the exam paper while SWVIs received the questions on a USB, thus it took more time for them to listen to the computer read the problems.

The way I do the exam cannot keep up with sighted people. I study and do exams on a computer; thus, I have to listen to the computer. It's not liked a sighted person who can know what to write down and where just at the first glance, so I can't make it in time. I couldn't do it as quickly as sighted friends (Anh, female, 24 years old).

Another participant shared her experience when taking the exam together with other sighted students without any accommodation from the institution. She could read large print or read print materials at a very close distance, but the institution did not offer her large print for the entrance exam.

I took the exam completely like the others in the room. I'd get the questions, read the problem and fill in the answer sheet in the same time allowance with no further accommodating adjustments, just like my sighted friends. However, while working on the test, I encountered several difficulties. That is the answer sheet printed in a very small and very fuzzy font. I, therefore, faced a high risk of circling the wrong answer for some questions, circling two answers in some others, while there are questions, I don't circle any answers at all. It took me a lot of time to find and circle the answer I really meant to choose (Hien, female, 20 years old).

Attitudinal Factors. Attitudes of faculty and sighted peers towards SWVIs changed from positive and supportive to negative depending on context. Emerging themes showed the following was that SWVIs experienced on campus: care and support, disability awareness,

negative attitudes, and discrimination and stigmatization.

Care and Support. Some SWVIs had positive experiences with faculty and classmates. Faculty helped to connect SWVIs with their classmates so that they could receive support from classmates. “The lecturers were very enthusiastic and bridged me with my friends. The lecturers often asked friends to help me. Without the help of lecturers and friends, I think I will not be able to complete the courses” (Trinh, female, 27 years old). Another also remembered positive experiences with his instructors. “About the lecturers, some lecturers were very enthusiastic. They were willing to share with me their PowerPoint slides and documents” (Duy, male, 22 years old). In addition, sighted classmates understood their vision limitation, thus they assigned tasks that SWVIs could do well for their group assignments. Another participant talked about her group mates: “They all know that I’m blind, so they only assign me information look-up tasks, and they instead will work on the slides” (Hue, female, 27 years old).

A Lack of Disability Awareness. SWVIs at international colleges said that faculty had a high level of disability awareness because there was a good collaboration between the office for disability support services and faculty. In addition, there was a system to record the voice of students, thus faculty were mandated to support SWDs.

The after-learning experience survey was conducted professionally, thus if faculty did not complete their responsibilities for supporting students with special needs, they would be reminded or disciplined. So, it’s important that there was a mechanism to protect students and where students can voice their concerns (Cuong, male, 26 years old).

However, classmates seemed to be skeptical about the ability of SWVIs. Cuong thought his classmates at the international college looked down on him.

I think for most of the time, those friends of mine didn’t mean to treat me with

discrimination, but just because they're too sure they're playing on a leveled playing field by a definition of their own. For instance, while working in a team for an assignment, my teammates just told me things like "but you didn't do this!" But I think if looking at it from a wider angle, they would see that yes, I might not be able to do it myself, but it doesn't mean that I couldn't assign someone to do it instead (Cuong, male, 26 years old).

Due to a lack of disability awareness and institutional policies at domestic colleges, faculty did not know how to assist SWVIs. The amount of support for SWVIs depended on the willingness of each faculty. Some faculty were very supportive. They sent their PowerPoint slides to SWVIs before or after each class so that SWVIs could follow the lesson. However, some faculty members were not supportive of SWVIs. They did not share their PowerPoint slides or their materials. One student described his encounter with the Registrar's Office. "When I first went to apply to this school, the Registrar's Office had already warned that the school does not have enough equipment to support special students. If there are difficulties, I myself must try and solve them first, or contact the instructors for further support (Hung, male, 24 years old).

Similarly, another student expressed the situation he encountered:

Currently, visually impaired students have not received proper attention. Sometimes we attend the class for the whole semester and then we contact the lecturer to finish the course with a request to change the examination format at the end of that semester, and that's it. There is no further care from the lecturers, nor do they learn from our experience for further improvements for the sake of students of the next generations (Minh, male, 23 years old).

In addition, SWVIs said that many faculty members did not know how to teach SWVIs. They forgot the presence of an SWVI in their class, thus they did not read their PowerPoint

slides. “Another difficulty was when lecturers used projectors but did not lecture what was there, I had to ask classmates to read it again”, or “In class, the lecturers use chattering language like ‘just look up here, here and there’ that are inaccessible for me” (Duy, male, 20 years old).

Some faculty skipped SWVIs when it was their turn to answer in a review session. One student said that she wanted to be able to participate in class as sighted students, but faculty did not understand her needs.

I like equality. In general, equality is how people treat others they will treat me the same, but here it’s different. For example, some instructors also teach many blind students, they know it is okay. But some don’t want to let me do things like other students (Trang, female, 24 years old).

Some faculty even thought that SWVIs should not study much, thus they lowered assessment standards for SWVIs. They gave a passing grade for SWVIs without asking for their studying efforts. One student shared his unhappy experience when receiving a passing grade for the course. He wanted to gain knowledge through his participation.

When I was in the first year, I shared with the lecturers about my difficulties and they listened, but they did not know how to support me. It means, they were not used to teaching people like me. Because they are not trained in skills to teach people with visual impairment. Therefore, some lecturers just let it go. Some don't know how I study but give me a passing grade. Kind of like giving credits. Some other lecturers are better when giving learning materials and lectures for me. No one supported me to understand lessons and go to the end to meet my needs (Lam, male, 31 years old).

SWVIs often noted that their sighted classmates lacked sympathy and understanding of disability. SWVIs had several difficulties in making friends and connecting with sighted peers on

campus. “I want to connect with them but cannot connect. In addition, when I started the story, it seemed that they had other concerns, and many of them even didn't have a lot of sympathy for the disabled. They ignored or talked sporadically” (Duy, male, 20 years old). Another also shared a similar experience. “But through their actions and manners, I know they still think about me incorrectly. Some don't have experiences and don't fully understand my personality; thus, it is difficult to make friends” (Thanh, male, 32 years old).

Negative Attitudes. According to SWVIs, some faculty were very supportive, but others had negative attitudes about PWDs as well as PWVIs. One student said that he did well at math, but his instructor thought all SWVIs could not do so, thus his instructor did not give him challenging questions. “They judged that blind people can't learn geometry, but like sighted people, some people can learn it, some people don't, but they met a blind person who did not study geometry well, so they imposed it for all people with visual impairment” (Thai, male, 25 years old).

Another student stated that faculty and departments thought that SWVIs could not learn or do things as well as sighted students thus they gave them an unnecessary exemption for courses while SWVIs wanted to gain skills and knowledge.

They also don't think we can present, or we can do group homework together. They thought we were just studying but could not do anything. They think that lecturers will let us skip certain courses, thus they don't find the best way to help us practice. At least at school people do not discriminate against me. They only look down on me. They just thought, oh, what can people with visual impairment do! Or maybe people with visual impairment can't do this (Anh, female, 24 years old).

One participant expressed that faculty and classmates were skeptical about her ability when she

got good grades when she was allowed to take exams by a laptop while sighted classmates used pen and paper.

Another problem is that when knowing that students with a visual impairment are allowed to take exams on a laptop and get quite high results, at first some lecturers and classmates were also skeptical about it. They assumed that we copied documents that had been saved on the computer (Huong, female, 22 years old).

Discrimination and Stigmatization. SWVIs at international colleges felt they were treated fairly by faculty. Faculty were trained and guided on how to teach SWVIs because the office for disability support services served as a liaison between faculty and students. This office learned the need for the accommodation of SWVIs and sent them to the faculty.

When I needed to extend the deadline to complete the assignments, I asked the lecturers directly. If any lecturer didn't agree to give me more time, I would ask the representative office to help me to talk to the lecturer. For a few semesters, there were no specific rules for supporting students with visual impairment. Until 2014, the supporting rules were created. There was a board that stated problems that students usually face and types of services that students can request (Chien, male, 27 years old).

Even though in higher education institutions people are educated better than in the general community, at domestic colleges SWVIs still experienced various forms of discrimination. One student said that his faculty excluded him from class participation. "When calling students' names to do homework, some lecturers automatically ignore my name. I guess they think I can't do it" (Duy, male, 20 years old). Another student shared that his faculty ignored him as if he was not present in that class "In college, there was an instructor who only cares about sighted students, he didn't care how I studied as if I wasn't in his class" (Khiem, male, 24

years old).

Although SWVIs at domestic colleges received a lot of support from their sighted peers with transportation and reading from the board or slides when faculty did not lecture, some participants experienced subtle stigmatization from their classmates. Their classmates did not sit at the same table with them although tables had 4 -5 seats. Khuong recalled her encounters with her classmates.

Yes, I think in class they let me sit with another friend who is also visually impaired or let me sit alone on a table that can keep 4-5 students. They do not sit near me.

Occasionally only one classmate is sitting near me but without talking to me. When I have something to ask, she will answer. I think if I ask for help, she would help me, but she has never actively talked to me (Khuong, female, 30 years old).

Another student felt excluded when her group mates did not acknowledge her ideas in group discussions.

Some groups, however, do not acknowledge my opinion at all. In the group of Vietnamese Language Usage Skills, for instance, members in the group are doing very well at the subject. When the teacher assigned a task to the group, where every member needed to contribute their ideas, I also tried to raise my opinion. However, when I raised my opinion, they listened to it just to leave it there in the air, or not acknowledge my opinion at all (Hien, female, 20 years old).

One student shared some types of discrimination he experienced such as being ignored, denied participation, or avoidance. Those behaviors almost caused him to drop out of college.

As I said, discrimination is a big barrier as much as other difficulties. The lecturers automatically ignored my name, students didn't want to talk to me, students turned away

when I asked for help or I was turned down for the clubs as I shared. In general, the discrimination does not directly affect my education but greatly affects my psychology. In mild cases, it leads us to feel a little sad and hurt in severe cases. Like my case, at the beginning it made me stressed out and even dropped out of school (Duy, male, 20 years old).

Similarly, at international colleges, SWVIs rarely interacted with their sighted classmates outside the classroom due to social class differences. Most sighted students at international colleges came from wealthy or upper-class families. Whereas, most SWVIs who attended international colleges due to their excellent academic performance, came from working-class or low-income families. It affected the psychological well-being of SWVIs.

For learning, it was a lot easier at my college, but the real challenge lay in the effort to engage and include myself in a sort of social class very different from types of friends with whom I used to be very close. I think it had quite a large impact on my confidence. I think I once was very confident that when I won a chance to study at this international college, I would have full support from the university, with a whole office set aside working just to ensure that people like myself could get the best of what the university has to offer and far beyond. But now it feels like dissipated somewhat as I see that my friends at this college are way and way more privileged than what I have on hand, and it feels pretty much like that with whatever they want to do, they have a much higher and stronger potential to set it up while it would be a lot more difficult in my case. I couldn't get rid of the thought that I've got a good, if not an excellent education but all and all I would have to compete with the others at work in an uphill battle (Cuong, male, 26 years old).

Another student from an international college also realized a distance between her and her classmates: “I don't know if it's considered discrimination, but when sitting in a class, they won't notice my presence, never talk to me, the contact between the two is very little. However, some friends will actively get to know and talk to me, but that number is very small” (Linh, female, 22 years old).

4.2.4. Community System

The community system includes larger community factors that influence the education of SWVIs. Using the social approach of disability theory, the factors in this system were categorized into institutional, environmental, and attitudinal factors.

Institutional Factors. The following themes related to institutional factors in the community emerged in the data: a lack of guidelines for implementing the national disability legislations, social justice, and company policies.

A Lack of Guidelines for Implementing the National Disability Legislations. SWVIs underscored ambivalent language in the national disability legislation. As a result, higher education institutions and government agencies interpreted them vaguely. For example, in regarding tuition waiver, the disability law stated that students with disabilities in difficult circumstances will have tuition waivers. However, each institution understood the term “difficult circumstances” in its way. Consequently, some SWVIs received tuition waivers while others did not.

According to the legislation, students with disabilities in difficult circumstances have a tuition waiver. The phrase "difficult circumstance" is understood differently by each institution. Some schools think that being a blind student is also a difficult circumstance. Other schools, including my own school, said that students need to have proof for

“difficult circumstances” such as the certificate for near-poor households and poor households. If there is the certificate of near-poor or poor households, it is not related to disability because poor and near-poor families are also eligible for tuition waiver (Duy, male, 20 years old).

Linh shared her painful experience when being rejected an academic record admission due to a conflict between the disability law and the education law. The disability law instructs how to rank disability into mild, medium, severe, and extremely severe levels. Whereas, the education law regulates how to grant an admission based on academic records for students with disabilities or an exemption for the national entrance exam.

In Vietnam, the law on people with disabilities and the law on education are contradictory. As a result, they rely on loopholes to reject us. For example, they say that a person with an extremely severe disability will receive an academic record admission to college, but an extremely severe disability means a loss of 81% or more of the health and is completely incapable of self-help. When I went to my hometown to ask for that paper, they gave an answer that I thought it was quite convincing. They said that having enough intelligence to study up to college is not suitable for the conditions for granting that paper. But when I came back to the campus, people said that the rules stated that I need to show that paper to receive admission. That's why I'm also very confused as to why people in education do that. After a few scandals and fighting for my rights, people came up with a solution that I don't find it convincing. People gave me a new circular that people who are completely blind will be recognized as having an extremely severe disability. So, for those who are not completely blind, how do they handle it? For example, I have a friend who is not completely blind, thus she does not have an extremely severe disability

certificate and is not allowed to take the national entrance exam. Then it's no different from telling her that 'you should quit school'" (Linh, female, 22 years old).

Social Justice. One participant, a first-generation college student, explained how his parents and older sisters experienced social injustice. For him people with low education are usually marginalized and treated unfairly. This motivated him to study to advocate for himself.

When I was young, I witnessed my parents and older sisters, who did not have high education, had many issues in communicating in society and with the government. They were marginalized and oppressed. Being illiterate is despised by people. Because my family was a poor family and faced these problems, I was determined to go to school to gain knowledge, to know things in order to avoid my parents' pitfalls (Thanh, male, 32 years old).

Company Policies. Participants said that some employers started to recruit PWVIs, but they did not know how to support them. The companies did not have guidelines on providing accommodation for employees with visual impairments.

For society, I participate in some companies, they recruit visually impaired people to answer on the phone. But they do not know how to help blind people. I also talked about how I use the computer and some skills to make them understand us better, but I have not received much enthusiasm, I also do not know how (Trang, female, 24 years old).

Businesses do not want to hire PWVIs because the disability law requires employers to provide accommodation for employees with disabilities, but employers do not want to invest money in modifying their facilities, thus they choose to not employ PWDs. Some employers hire PWDs to promote their public images but do not accommodate them.

I have not seen anyone work for the government yet. State-owned enterprises do not want

to recruit us because they do not know our capacity. In addition, for us to work, they need to support us with facilities and computers. According to the law, businesses where people with disabilities come to work must support people with disabilities with facilities, but in Vietnam most of them do not have accessible facilities. Employers hired people with disabilities in order to get tax reduction or promote the image of the business (Chau, female, 25 years old).

Environmental Factors. The following factors in the community environment directly or indirectly influenced the education of SWVIs: a woman disempowered culture, a lack of participation opportunity, and inaccessible infrastructures.

A Women Disempowered Culture. Participants thought Vietnam cultures identify the roles of men and women in family and society. By default, women are seen as suitable to study liberal arts and take clerical works. However, Chien revealed that women with visual impairments do not perform clerical works well due to their vision limitation. Consequently, women with visual impairment have fewer opportunities for employment.

Often, females just like clerical works. People with visual impairment who study engineering are males only, females with visual impairment study other majors will have to do clerical works related to printing and publishing that are difficult for them to be hired (Chien, male, 27 years old).

Vietnamese agricultural tradition does not encourage women to seek employment outside their home, but their main job is to take care of the family. As a result, families and communities do not invest in women's education, especially women with visual impairments. They further explained that women with visual impairments can work in the massage industry that does not require much education. "There are more male students than females as far as I know. It is in part

of the mindset that girls don't need to study too much but should just stay home and wait until their marriage-age" (Quan, male, 20 years old).

For me, males are stronger than females because females are quite weak physically and afraid to face challenges when going out. Almost all female friends at Nguyen Dinh Chieu school that I know, after graduating from high school, will find jobs that are suitable for their abilities. Not many females want to study higher. Studying higher and working in a highly competitive environment they seem not to like it. Most female friends I know work in the massage industry or follow majors like pedagogy or humanities (Chien, male, 27 years old).

In addition, Buddhism teaches people to accept their trauma experience as is and find peace of mind.

I listened to the master monk's lectures on life, religion, and the revolving wheel by which I regained the balance of life, became more optimistic, and did not see the burden of my defects. I don't feel sad anymore when knowing about the nihilism of life, everything will become dust (Thanh, male, 32 years old).

A Lack of Opportunities for Participation. All participants stated that they lacked opportunities to fully participate in activities that matter in their life. Compared to sighted peers, they had fewer opportunities to go to school and college, select their interested field of study, be employed after graduation, and participate in social activities.

Most of the participants were skeptical about their employment after graduation. Although special education is the field that is thought to be suitable for PWVIs, participants still struggled to find a job as a special education teacher after graduation. Public schools were not interested in hiring people with visual impairments because they have to modify their facilities to

accommodate employees with visual impairments. In contrast, nonprofit agencies working with children with visual impairments will employ PWVIs as special education teachers but there are a few nonprofit agencies while there is a high demand for those kinds of jobs.

As far as I can see, in terms of career, for both my friends as well as myself, it is difficult to apply for a job when we finish school. Often, we are unemployed because the employers often do not hire us or if they hire us, they do not create conditions for us to work. So, it is very difficult. According to my statistics, most of them are unemployed and have to work in other areas. If sighted people are unemployed, they are still able to find other jobs to do, but it is very difficult for us to find other jobs (Lam, male, 31 years old).

Similarly, Bich studied special education and graduated a year ago. She wanted to become a teacher to teach children with disabilities. After she graduated, she taught at a center for children with visual impairment for one year. Then due to the reorganization of the center, the new administration stopped employing her. Currently, she is doing crafts to earn a living.

To be honest, the job for the visually impaired is a very difficult problem. Up until now, when someone asked: what will we do now? Or if you finish school, what do you plan to do? I also have not been able to answer that question. I really love teaching. But until now I still do not know if I can continue to teach or not. Besides, the job opportunities of the visually impaired are very limited. It circles around just the massage profession, the teaching profession, the telephone operator ... but it doesn't expand to many other professions. But it seems that people do not have confidence that the blind can work, thus the job opportunity for the blind is low (Bich, female, 27 years old).

Additionally, SWVIs showed that they were not given equal education opportunities. For

example, Khuong wanted to learn English to broaden her employment but Foreign Languages Center rejected her. If any center agrees to enroll her, it does not provide any accommodation.

I love to learn English. I liked it from a young age. However, the center I applied to study didn't accept visually impaired people. People may accept me but the first thing, it teaches all sighted people in the center, there is no support or whatsoever. Then if I cannot follow it, people don't care but I have to pay tuition/fees fully. Many centers don't accept me. Like I also want to study IELTS to get a degree, but the centers don't accept me and don't provide support, thus I have to self-study. For self-study sometimes I search the internet, but I don't have opportunities to practice speaking with native speakers. I really want to improve my English, but I can't (Khuong, female, 20 years old).

Inaccessible Infrastructures. Participants shared that the community environment had many barriers that prevented them from living independently. First, transportation was inaccessible for PWVIs. Although busses are free for PWDs, there is no sound signal at bus stops to let PWVIs know which bus is coming. PWVIs need to depend on a sighted person at the bus stops to help them catch the right bus. "When I take the bus, I have trouble catching the bus, so I ask people around to catch it" (Thai, male, 25 years old). One participant said that she had to go back home after waiting a few hours at the bus stop, but no one was there to help her catch the bus to school on Saturday.

There are not always people at the bus station to guide me to the campus. Sometimes, I arrived at the bus station, but I needed to walk a few kilometers to the campus. If I meet a friend there, I will be fine to walk to the campus. But when I studied on Saturday, very few students went to school, so I was standing there waiting very long to see a friend who could help me to school. Sometimes I stood there for hours but met no one, thus I had to

take the bus back home. I find it difficult to go to school (Khuong, female, 30 years old).

Participants also pointed out that public facilities were inaccessible for PWVIs. Elevators did not have a voice or Braille, public toilets, city maps, and traffic signs were inaccessible. One participant described public places “Most elevators don't have a voice. Only centers for people with disabilities have it, but other places, especially supermarkets, don't have it” (Thinh, male, 25 years old).

Unsafe Environment. Participants admitted that the community was unsafe for PWVIs, especially women with visual impairment. When buses were behind the schedule, bus drivers rushed to go even though PWVIs had not fully gotten off. “It can be rather challenging when I'm getting off the bus. There are times when the bus is behind the schedule, they would fall into a great rush. Those are also the most dangerous times because the bus was already accelerating while I didn't yet leave the bus completely” (Hien, female, 20 years old).

SWVIs who moved out of their parents' homes to study had to rent budget inns, and they were targets for sexual abuse or harassment. A male participant shared his perception of the community where he is living. “In budget inns, there are many types of tenants, so girls can be easily abused when walking on the street or on the stairs. Thus, it's difficult for girls to rent a room. When renting a room, men only need to be safe from theft and can easily avoid abuses” (Thai, male, 25 years old). Another female girl had to work as a massager to earn a living while attending college out of her hometown. She recalled being harassed at her workplace.

Moving to Hanoi was a little more difficult. I have to adapt to work as a massager.

Sometimes I was harassed by customers. I go to school during the daytime and come back seeing late customers that I have to serve until 12 pm or 1 am. It makes me tired and discouraged that I want to drop out (Chau, female, 25 years old).

Attitudinal Factors. Attitudes of the community towards SWVIs that emerged from the data included a lack of disability awareness, prejudice, stigmatization, and discrimination.

A Lack of Disability Awareness. SWVIs experienced different attitudes from people in the community. Most of the time, they viewed other people as misunderstanding and lacking appropriate behaviors in interactions with PWVIs. SWVIs particularly emphasized that other people underrated the ability of PWVIs. They thought PWVIs could not learn or do anything. Thinh recalled his experiences “Many people have a thought why PWVIs go to school a lot. People underrated the blind. Being blind how to walk? How to use the phone? While blind people can go from their homes to school by themselves, they can take the bus by themselves” (Thinh, male, 25 years old).

Prejudice. SWVIs stated that the community had biased views towards PWVIs. They had a preconception that PWVIs could not study in higher education or perform a white-collar job, thus they would ignore applications of PWVIs. Chien who just graduated from an international college with a major in Information Systems and English proficiency expressed his hopelessness when his application was rejected due to his visual impairment.

When I applied for a job, people didn’t give me opportunities, they just focused on my eyesight to reject me. They were business companies, thus they just wanted to make profits from investment. They did not know if I could work but if they recruited me, they might have to spend a lot of time supporting me. If I didn’t write on my CV about my eyesight and waited until I went to the interview so that people would know about my visual impairment, their attitudes would be different. They didn’t listen to my explanation, they asked how I could study in college, and people thought that I could not study in college so how could I work (Chien, male, 27 years old).

Duy shared what he learned from SWVIs of previous cohorts about their employment obstacles after graduation. Employers did not consider their applications when seeing the word “visual impairment” in their CVs.

For employment after graduating from school, many students with visual impairments from previous cohorts submitted CVs to companies and organizations, and they were all refused when seeing the words “visual impairment” regardless of their excellent professional knowledge and soft skills. Especially in Vietnam, it is heavily influenced by prejudices that are deeply embedded in many generations from the old society (Duy, male, 20 years old).

Furthermore, community prejudice negatively affected girls with visual impairments than their male counterparts. Cuong shared a story of a girl with visual impairments who bravely studied journalism and was criticized by everyone. They thought women with visual impairments were not suitable to study and work in the journalism field. They should follow the fields that other women with visual impairments studied such as social work, sociology, psychology, and special education.

When a girl I know, Trang submitted to study the degree of journalism, not a single soul with visual impairment supported her decision, even those who don’t know a lot about that discipline, saying things like “how do you think you can follow trails for news when you’re blind. It’s difficult enough for a woman to work in the news industry, let alone a woman who’s blind.” They didn’t spend only a short moment thinking of whether journalism must mean that we have to chase after the news or not. After graduation, Trang is also now working for an agency pretty much like myself. She’s also in charge of writing content (Cuong, male, 26 years old).

Discrimination and Stigmatization. SWVIs stated that they still experienced discrimination in the community despite the national disability law prohibiting discrimination based on disability. Usually, discriminative behaviors ranged from subtle to noticeable actions. One participant said the way sighted peers talked hurt them emotionally because they viewed disability as something abnormal.

Friends sat and played together, then they had a certain kind of behavior and said, ‘oh look like a person with disabilities.’ They meant disability is something abnormal or when viewing materials if anyone couldn't see something, they said ‘Are you blind? why can't you see it?’ Therefore, anyone who pays attention will feel hurt (Chau, female, 25 years old).

SWVIs stated that employers will not hire PWVIs although the disability law requires employers to include at least 2% people with disabilities in the workforce.

The law states that each company must accept 2% of people with disabilities, but they really don't do it, they accept to pay a fine. I think it's not that people with disabilities can't work, but their chances are less than ordinary people. Employment is still far away. I think people with disabilities learn a lot but become a massager. I think that is an injustice! Anyway, I go to university, so I am determined to study but I am not recognized by society. I think we should have jobs that I can do in the same company with normal people like I am a normal person, and I can also work at the same level with them (Thien, male, 25 years old).

Most of SWVIs had clear evidence of discrimination when using public transportation. Thinh recalled how he and his friends with visual impairments were ignored and yelled at when taking buses.

Buses have priority seats for the disabled, the elderly, pregnant women, and children. But the day we came back from Fairy Stream, all 7 blind people had to stand, 2 nuns also stood. At the station, the bus refused to pick us up. On the bus, the staff yelled at us. I don't imagine the staff treating us like that (Thinh, male, 25 years old).

Duy retold discrimination situations he experienced in the community. Although he experienced discrimination on campus, but it was less offensive than outside the campus.

At least on campus, they are students and lecturers. Crudely speaking, they are educated. Outside we met several things such as when we went to work, people used offensive language. When catching a Grab bike, they refused to drive us because we didn't see anything. Catching the bus to my hometown I asked nearby people to help, but they ignored me. Many people jokingly kicked my cane or pulled my hair. To sum up, there are many types like that, there are many pictures of the reality (Duy, male, 20 years old).

4.3. Research question 2: How similar or unique are challenges and support services that Vietnamese male vs. female students with visual impairments experience?

This section addresses similarities and differences in the challenges and support services that male and female Vietnamese students with visual impairments experienced. Findings revealed two different lines of thought on challenges that male and female SWVIs face in college. The first line of thought came mainly from females and stated that women face more challenges in higher education compared to males. The second line of thought, mainly from males, claimed that the challenges that SWVIs experience are the same regardless of gender. An overview of the Nvivo coding on this topic can be found in Figure 6.

The screenshot shows the NVivo software interface. On the left is a sidebar with 'Quick Access' and 'IMPORT' sections. The main area displays a 'Codes' list with columns: Name, Files, References, Created on, Created by, Modified on, and Modified by. The data is as follows:

Name	Files	References	Created on	Created by	Modified on	Modified by
INTERSECTIONALITY	0	0	1/15/2021 1:43 AM	TB	1/15/2021 1:43 AM	TB
Challenges and gender	0	0	2/9/2021 2:54 PM	TB	2/9/2021 2:54 PM	TB
Different challenges	8	9	2/9/2021 2:56 PM	TB	10/12/2021 1:04 AM	TB
Employment opportunity	6	7	2/9/2021 3:03 PM	TB	9/3/2021 8:38 PM	TB
Equality	6	6	3/1/2021 11:12 PM	TB	8/5/2021 12:06 AM	TB
Same challenges	6	7	3/1/2021 11:09 PM	TB	9/3/2021 10:21 PM	TB
Disability and gender	17	23	1/15/2021 1:44 AM	TB	10/15/2021 5:07 PM	TB
Disability and SES	4	6	1/15/2021 1:19 AM	TB	9/3/2021 8:45 PM	TB
Family support and gender	7	8	2/1/2021 1:14 AM	TB	9/3/2021 10:15 PM	TB
Gender and marriage	9	9	3/2/2021 2:59 PM	TB	10/12/2021 1:04 AM	TB

Figure 6: Nvivo coding for question 2

4.3.1. *More Challenges for Women with Visual Impairments*

Most participants indicated that being a woman has more challenges than a man. Being a woman with disabilities doubled the challenges. “For ordinary people or people with disabilities, I think women are more disadvantaged than men. Normal women have many challenges. If they have disabilities, they have more challenges with their daily activities as well as with their family life” (Chi, female, 26 years old).

At the individual level, both male and female participants noted that female SWVIs tended to feel self-pity or inferior. This prevented them from connecting and communicating with people to get support they needed; thus, they experienced more challenges at school and in the community.

I think the male students with visual impairment will have more sighted friends than females. ... Sometimes I see there are males with visual impairment ... when I passed by because I knew a blind friend in class. I don't know exactly whether that friend took the initiative, or his classmates took the initiative, but he has many sighted friends (Khuong, female, 30 years old).

Several female participants observed that due to their strong characteristics, male SWVIs

could easily make friends with sighted students compared to their female counterparts. As a result, male SWVIs receive more help on campus.

Normally boys are stronger than girls, so they communicate well and get to know more sighted friends. The girls study harder than the boys but are often shy, so they have fewer sighted friends. In addition, due to good communication and talking more to their friends and teachers, the boys can ask many people to help them (Bich, female, 27 years old).

One male participant explained that female SWVIs encountered more challenges in college because of their non-competitiveness and dependence. He thought female students were afraid of trying new things and chose a secure solution, thus they would not dare to tackle new responsibilities. “The challenge I think is bigger. Most of the female friends I know tend to be non-competitive, and usually more dependent on others” (Cuong, male, 26 years old).

Another viewpoint that emerged was that challenges in college were higher for female SWVIs because females did not know technology well. “If there is such a difference, I think it might be the higher ratio of digital illiteracy to assistive technology amongst females than males” (Quan, male, 20 years old).

Differential treatment towards females with VI also occurred at school by sighted classmates. Female sighted classmates like to talk to male SWVI because girls are usually caring and supportive. In contrast, sighted boys do not want to talk or make friends with female SWVI.

Between male and female students with visual impairments, males always dominate.

Because males are not shy, thus they can easily initiate contacts with people, they have more confidence in communication. Females sometimes have many limitations.

Sometimes they are more likely to have a sense of inferiority. Well, at school, I saw sighted girls are more likely to talk to non-sighted boys while sighted boys don't like to

contact non-sighted girls (Duyen, female, 27 years old).

At the family level, males received favorable treatment by family. Both male and female SWVIs agreed on this point. Males did not have to take on any work at home but received plenty of care and support from family members. “If you ask about how the family treats the man, family is ‘automatic’. I only sit and play” (Binh, male, 26 years old). Participants also believed that males with VI had more privileges than females with VI because of the gender-biased view of family and society. “Usually, families already value men above women. I was pampered because my family understood that being a daughter is a disadvantage and being disabled is even more disadvantaged. For families who do not understand it, it will be more difficult because of long-term prejudice” (Trinh, female, 27 years old).

Due to social prejudice in Vietnamese society females were judged unfairly by family and society, especially male counterparts. One male SWVI discussed his biased view about females with VI.

For me, males are stronger than females because females are quite weak physically and afraid to face challenges when going out. Almost all female friends at Nguyen Dinh Chieu school that I know, after graduating from high school, will find jobs that are suitable for their abilities. Not many females want to study higher. Studying higher and working in a highly competitive environment they seem not to like it. Most female friends I know work in the massage industry or follow majors like pedagogy or humanities (Chien, male, 27 years old).

Women with VI experienced more challenges in higher education because families thought women do not need to go to college. They guessed women will get married and stay home to take care of the children, therefore it is not a good investment in girl education. Being a

woman with visual impairment, the prejudice will be harder. Families do not want to support girls with VI to go to school.

The difficulty, I think it's just related to prejudice. When we went to school, the family rarely supported us. The girls who went to school, had less support from family. Their family even disagreed or did not allow them to study because people thought they were girls, and they were blind thus they didn't need to learn much, and they won't be able to do anything after finishing school. Therefore, the opportunities for blind girls to learn and access knowledge will face more difficulties than the visually impaired men (Duy, male, 20 years old).

In a similar vein, the negligence of female education was expressed by a male SWVI as following:

There are more male students than females as far as I know. It is so because in part of a very protective attitude of their family resulting from their fear of bullying, and in part of the mindset that girls don't need to study too much, but should just stay home and wait until their marriage-age (Quan, male, 20 years old).

In addition, females with VI had fewer opportunities to participate in social activities or extracurricular activities at school because their families did not allow their daughters to go out like male SWVIs. "As I see it, male friends will have more freedom to go out. My family in the past, for instance, were very reluctant to let me leave the house out of their fear for my safety" (Hue, female, 27 years old).

Girls with VI were motivated by future career opportunities when they made the decision to obtain higher education. However, according to female participants, there were fewer career opportunities for females with VI despite both males and females having the same degree and

can do the work. One girl participant shared her experience with gender discrimination in employment when looking for a part-time job and was told that the boss only wanted to hire male employees only despite both men and women could perform the job equally.

I often go to some projects for the visually impaired to see how the opportunity works. I see some companies prefer visually impaired males to females. I'm not sure why this company accepts males only. Last Saturday I passed the table, then I asked them about the job which is sealing the package. I said men or women can do good as well, but the lady said the boss only wanted the boys (Trang, female, 24 years old).

However, male SWVI thought employment opportunities would be the same for male and female SWVI after graduation because the job market doesn't require physical strengths. "I think it's completely equal to either gender. Since our future work will not require much physical strength, the difference between men and women will not be too large" (Quan, male, 20 years old). In addition, female SWVIs would face more challenges with looking for part-time jobs in college.

Men can participate in any job while women have problems with gender, body protection ... If men face financial difficulties during their studying, they can do street vendors or serve at bars, but it is very difficult for women. It's because the environment in the pub is not very healthy. Girls will be easily sexually abused and taken advantage of (Thai, male, 25 years old).

Besides, finding a safe place to stay during college years challenged female SWVIs. Thai continued "Or in budget inns, there are many types of tenants, so girls can be easily abused when walking on the street or on the stairs. Thus, it's difficult for girls to rent a room. When renting a room, men only need to be safe from theft and can easily avoid abuses" (Thai, male, 25 years

old).

For other college intimate relationships, the challenge was higher for female SWVIs. One participant shared that it would be impossible for a girl with VI to have a sighted boyfriend whereas a boy with VI could have a sighted girlfriend. “There is a situation that a boyfriend with a disability is more likely to have a girlfriend (in an intimate relationship) or to have a wife who is sighted, while a girl with a visual impairment can marry a friend without a disability is only a ‘fairy love story’ (Linh, female, 22 years old).

Female participants shared the challenges they face in getting married. Males with VI could find a partner more easily than a female with VI because Vietnamese parents often had a voice for children’s marriage. If the parents did not support their son to marry a girl, the boy would follow his parents’ advice. One participant shared the story of his friend:

I know of many people who deeply love each other, but in the case of marriage, girls will choose to become a single mom instead. Parents forbid their blind son from marrying a blind wife in many cases. A blind girl will face more difficulties when living in her husband’s home (Quan, male, 24 years old).

Another female participant discussed the barriers for females to get married.

I see that males have higher chances of getting married and they can marry someone who sees better than they do. Males’ families will oppose males and females with visual impairment. Females often marry people who cannot see like them, but the chance is also very low. If a female marries someone who sees better than she does, she must have something outstanding like being wealthy, beautiful, or studying well. Most females choose to be a single mom (Chau, female, 25 years old).

Society only requires men to have a job to bring money home, while women are expected

to take care of the household in addition to making their own money. If a woman cannot take care of house chores and childrearing, she is considered an unfavorable wife. “In my view, the wife manages all the household chores. Females with visual impairment may find it hard to do it, and thus there are few men who accept a wife with visual impairment” (Lan, female, 24 years old). The notion that women must take care of the house chores was discussed further by another female participant.

I think in the view of Vietnamese society, the responsibility of a man is just to work and earn money. A man with visual impairment can still earn money. Whereas females have to earn money, take care of children, and do house chores. Male families want their daughters-in-law to take care of communications with relatives as well, thus the chance of females is also low. Males with visual impairment also want to marry someone who can see better than themselves so that they can work without worrying about house chores (Chau, female, 25 years old).

4.3.2. *Same Challenges for Male and Female with Visual Impairments*

The second group of participants noted that the challenges were the same regardless of gender. This group consisted mostly of males. “I myself think the difficulty of students with visual impairments is the limited access to documents and the teaching approach, not in whether you are male or female” (Minh, male, 23 years old). Another participant argued that the challenges were the same due to college policies, but family support made them different case by case.

In my opinion, when I am a student in the university lecture hall, no matter if it is a male or female, PWVIs will have the same difficulties. Depending on each family, each of us will have different difficulties, but generally speaking, we all face difficulties not very

much different from one and the other (Hien, female, 20 years old).

4.4. Research question 3: What are the experiences of faculty who instruct Vietnamese students with visual impairments?

This section addresses faculty's views regarding attitudes, the academic environment, and higher education institutions that influence their interactions with SWVIs (see figure 7).

Name	Files	References	Created on	Created by	Modified on	Modified by
FACULTY PERCEPTIONS	0	0	10/5/2020 2:05 AM	TB	10/15/2021 3:51 PM	TB
Attitudes	0	0	8/23/2021 12:15 PM	TB	10/15/2021 5:28 PM	TB
Care and support	7	14	8/23/2021 12:15 PM	TB	10/15/2021 5:18 PM	TB
Equality	3	3	8/26/2021 2:18 PM	TB	10/15/2021 5:20 PM	TB
Flexibility	6	7	8/23/2021 12:45 PM	TB	10/15/2021 5:22 PM	TB
Lack of Disability awareness	3	5	8/23/2021 1:31 PM	TB	10/15/2021 4:58 PM	TB
Lower standards	2	2	8/23/2021 1:03 PM	TB	10/15/2021 5:24 PM	TB
Negative attitudes	4	7	8/23/2021 1:06 PM	TB	10/15/2021 5:29 PM	TB
Stigma & discrimination	4	5	8/23/2021 1:29 PM	TB	10/14/2021 12:46 AM	TB
Environmental factors	0	0	8/23/2021 12:14 PM	TB	10/15/2021 3:41 PM	TB
Employment	4	6	8/26/2021 2:24 PM	TB	10/14/2021 12:46 AM	TB
Inaccessibility	9	13	8/23/2021 12:14 PM	TB	10/15/2021 5:33 PM	TB
Lack of resources	3	4	8/26/2021 2:13 PM	TB	9/18/2021 2:24 AM	TB
Learning materials	6	8	9/8/2021 11:24 PM	TB	9/18/2021 2:24 AM	TB
Services	0	0	10/5/2020 2:13 AM	TB	10/5/2020 2:13 AM	TB
Transportation	4	6	8/26/2021 2:15 PM	TB	9/17/2021 1:06 AM	TB
Institutional factors	0	0	9/9/2021 11:49 AM	TB	10/15/2021 3:44 PM	TB
Admission	1	3	8/26/2021 3:07 PM	TB	9/9/2021 10:51 AM	TB
Disability policies	0	0	8/23/2021 12:32 PM	TB	8/23/2021 12:38 PM	TB
Assessment standards	1	2	9/9/2021 12:17 AM	TB	9/17/2021 12:40 AM	TB
Discrepancies in policies	4	5	8/23/2021 1:42 PM	TB	10/13/2021 12:19 AM	TB
Lack of disability training	1	2	9/21/2021 4:08 PM	TB	10/15/2021 6:43 PM	TB
Lack of institution policie	8	14	8/23/2021 12:39 PM	TB	9/18/2021 2:24 AM	TB
No disability support unit	1	1	8/26/2021 2:38 PM	TB	8/26/2021 2:38 PM	TB

Figure 7: Nvivo coding for question 3

4.4.1. Institutional Factors

From the faculty's perspectives, college admission and disability policies of higher education institutions were key institutional factors that affected education of SWVIs.

College Admission Disqualified Students with Visual Impairments. According to faculty, the passage of the law on the rights of persons with disabilities created opportunities for

SWVIs to attend college. Previously, SWVIs had to take the National college entrance exam in the same testing format with sighted students using pens and papers. Unintentionally, this type of testing automatically excluded SWVIs from taking the national entrance exam and attending college. The law on disability required colleges to offer admission to SWVIs based on their academic record of their high school. They must have an outstanding academic record to get admission to college. As a result, some SWVIs with an outstanding academic record were able to go to college but the remaining students were not given an equal opportunity to take the entry exam as sighted students, and the way to college for them was completely shut down. One faculty recalled the history of exclusion of SWVIs from college.

Previously in Vietnam, people with disabilities could not attend universities. Only until after the educational reform, people with disabilities could attend higher education. In the past, it was rare that they could make it to middle school or high school. It was mainly in primary schools and preschools. However, in the following years, when universities started to respect the rights of children in general and people with disabilities, policies were made on enrollment of people with disabilities, especially people who were deaf and blind. If they met the university's requirements, they were not only admitted, but policies were also created to encourage and support these students with disabilities to participate in the school's education (Tin, male, 57 years old).

A Lack of Comprehensive Disability Policies. Most faculty confirmed that their institutions did not have a policy that guided them how to teach students with disabilities. One participant who was the former dean of a university firmly stated:

Interviewer: Do you have official documents or policies to guide departments on how to teach students with visual impairments?

Responder: There is no official document or policy. (Xuan, female, 58 years old)

A faculty of another institution commented that a lack of institutional policies on disability occurred not only at his university but also at most universities in Vietnam.

There is no policy at the department level. It depends on each lecturer in the department during the teaching process, he/she might feel sympathy, and empathy with those students. I can introduce jobs or support them to pay school fees when they don't have money. But at the department level I don't see any documents. Not only departments at my school, but other universities also do not have a document that stipulates that this support must be provided to students with visual impairments (Tam, male, 32 years old).

Other faculty added that, if there was any policy at their institutions, the policy was general with no specific measurements. For example, one participant who held the deanship of many universities shared that the policy usually had one brief sentence about SWDs. “The policy is still general. For example, to prioritize and help students with disabilities in general and students with visual impairments respectively. In general, that's all” (Vu, male, 70 years old). Another participant who is the associate dean of student affairs explained “Our policies are flexible, we handle each case individually, but there are no specific regulations. There is no regulation on how to support students with disabilities. I will support them if I can” (Kim, female, 43 years old).

Faculty participants also pointed out discrepancies in the national policies for education of people with disabilities. One participant shared that public colleges and universities were funded by the state while policies for PWDs were funded by the Ministry of Labor, Invalids, and Social Affairs (MOLISA) but under MOLISA policy, only vocational training for PWDs were funded by MOLISA. The Ministry of Education oversaw education for everyone, but it did not

have any policy for education of PWDs. Consequently, such discrepancies in policy led to a lack of funding for education of PWDs.

The school's training funding is provided by the state, while the state's policies for the disabled are funded by the Ministry of Labor, War Invalids and Social Affairs (MOLISA). Thus, we are lacking synchronization, the policy for training PWDs of MOLISA only provides support for vocational training. The Ministry of Education does not yet have a policy for education of people with disabilities. Thus, we are lacking such policies from above and appropriate funding to support students with disabilities (Huynh, male, 47 years old).

4.4.2. Disability-unfriendly Learning Environment

Inaccessible Facilities. All faculty participants stated that their institutions were not fully accessible for SWDs. Buildings did not have ramps for people who use a wheelchair. Some buildings did not have an elevator, and if buildings had elevators, the elevators did not have automatic voice announcement systems or Braille. “For example, at our school, there are still no accessible toilets for students with disabilities. The stairs from the schoolyard to the building also do not have ramps for students with a wheelchair” (Kim, female, 37 years old). Another faculty member described elevators at her school: “It's difficult for PWVIs to access the elevators because there is no speaker to read the floor level” (Xuan, female, 58 years old).

In addition, most faculty said that their libraries were not accessible for SWVIs. Libraries did not install assisted software for SWVIs to use the digital libraries, and many libraries have only print books. One faculty talked about the current status of libraries she knew.

With the current Vietnamese library system, even the largest library - the National Library, people seem to forget that people with disabilities also go to those libraries,

including the visually impaired. At that library, if you are blind, you can't go there to read books, which means that the support for the blind is almost zero. For the visually impaired, if no sighted one guides them, the accessibility can be said to be almost zero for those libraries. That means that our blind students can still take the bus on their own, go to the libraries on their own, but if they don't have a sighted friend to accompany them and assist them in the procedures and other activities at the libraries, they will not be able to use them (My, female, 46 years old).

A Lack of Learning Materials and Assistive Devices. Several faculty members observed that there was a lack of learning materials for SWVIs because textbooks have not been digitized or there were not many materials for the field. One faculty said that there was a lack of learning materials for social work. “There are not many social work materials available, so access is difficult ” (Danh, male, 37 years old). Another faculty discussed the need for information of his SWVIs and they did not have assisted devices to support their access to information. “Due to their specialty, they have a great need for information. I see they have several needs, especially the need for information. However, in Vietnam, the information database and equipment for the blind are still extremely scarce” (Vu, male, 70 years old). With the support of screen reader software, SWVIs can access documents from the internet but few official learning materials were uploaded on the internet.

The second difficulty is the difficulty of accessing documents. Actually, now there are a lot of online documents and in fact, my blind students themselves, they all study very well, study very hard. They said that it is fortunate that now there is much software to support students with visual impairments. And when looking for documents, they will find documents online and put them in the software. However, not all documents are

posted online (My, female, 46 years old).

Challenges with Mobility and Transportation. Findings showed that mobility and transportation were difficult for SWVIs. One faculty member noticed the traffic was hectic and the sidewalk was occupied so it was difficult for even a sighted person to navigate through. Therefore, there were more challenges for SWVIs with mobility and transportation around campus and local areas using a white cane.

Vietnam's traffic system is not accessible, even the sidewalk is occupied and there is a lack of traffic safety. Students with VI when participating in the traffic face many difficulties. They cannot walk on the sidewalk, and it is unsafe to walk on the roadway with the very manual means of navigation, a white cane (Vu, male, 70 years old).

Another stated that mobility was a challenge for SWVIs at her institution because the campus was not disability friendly. SWVIs needed to depend on a sighted friend to travel within the campus, thus it hindered their independence.

When my SWVIs take the elevator up, unfortunately the elevator of my institution is not friendly. For the blind, it doesn't have Braille, so they can never take the elevator alone.

Let's say the classroom is on the 5th floor, it's okay to walk a bit, but if the classroom is on the 9th floor it will be very hard for them. They always have to be accompanied by sighted friends, which means they can't be independent. They always have to go with someone (My, female, 46 years old).

A Lack of Resources for Teaching. Faculty admitted that their institutions lacked resources, thus they were not able to equip teaching aids such as tactile graphics or 3D objects to teach SWVIs effectively. One faculty shared the challenge he faced “The second difficulty is lacking teaching aids: How to teach them exactly what they need and have the tools to let them

access what you teach?” (Bao, male, 42 years old). Another faculty explained that budget shortage was the reason his institution lacked services for SWVIs. “Actually, talking about providing accommodation for learning, it is very difficult because the university itself is still in the process of self-sufficient, so the funding for support services is very limited” (Tam, male, 32 years old). One faculty described the situations of his SWVIs:

As I said, the information needs of university students are great but cannot be met. There should be eBooks, but Vietnam doesn't have them. People have just started to combine with foreign countries to digitize libraries. Modern technology is not available. We have mainly Braille books and audiobooks still have many limitations. They have needs for computers for PWVIs but it's difficult to get it. Such SWVIs often come from very poor families and cannot afford to buy a separate computer for themselves (Vu, male, 70 years old).

A Lack of Employment Opportunities. Faculty agreed that there was recruitment discrimination against PWVIs. SWVIs were hardly able to find a job in the field they were trained after graduation although their education level was the same or higher than non-disabled people. One faculty observed:

For SWVIs in general, although the government has given preferential policies, many students have graduated from school for a long time and still don't have a job. Some of them return to their hometown to serve the blind association. We still don't have any sustainable support, but mostly come from a pity, thus support is very limited. Job opportunities for SWVIs are very low even though their level is equal to that of sighted people or even better (Danh, male, 37 years old).

Another faculty who had worked 40 years in higher education affirmed that employment

discrimination was an important barrier because it demotivated SWVIs. “The third barrier is when SWVIs graduate, it can be said that it is very difficult to find a job that's suitable for them, but public or private agencies sometimes have discrimination in recruiting PWVIs” (Vu, male, 70 years old).

College Provided Services. Most of the faculty stated that alternative testing formats and tuition waiver/scholarships were key services their institutions provided to SWVIs. For example, a faculty allowed his SWVI to take exams in Braille, then he sent their Braille answers to a school for the blind to get them translated into regular format for grading.

I have modules that I can replace with a written test for SWVIs to choose like oral tests. However, most of the time they want to take written tests like the rest of the class. This means reading the test to them so that they write in Braille, and then work on their answers in Braille (Tin, male, 57 years old).

In terms of scholarships, most public colleges offered tuition waiver and/or scholarships for SWVIs attending their schools.

A few years ago, I also did a study on students with disabilities at school, including SWVIs. The school also has policies such as free tuition for SWVIs, secondly, to support learning expenses for blind students during their studies. Besides, the number of scholarships at our institution is relatively high and there are also scholarships to support those SWVIs during their studies. Then most of them do not have to worry much about the cost of studying (Tam, male, 32 years old).

In addition, some faculty obtained large prints for students with low vision in their class. A few colleges collaborated with non-profit organizations to develop projects to mentor SWDs. One faculty revealed that her institution had a project to help SWDs develop their academic plan, but

the project stopped when the grant ended.

In recent years, the school has had a number of projects, such as New Zealand's project on supporting the blind with daily life such as having a personal mentor for each child. I was also a mentor for a student in the Japanese language Department on career orientation, etc. so that he or she can be easier in life and in learning (Mai, female, 46 years old).

4.4.3. Attitudinal Factors

Care and Support. Overall, the majority of faculty cared and supported SWVIs in higher education. They sent lecture notes and their PowerPoint slides to SWVIs so that SWVIs could read before going to the classroom. One faculty member said, “when I teach, I will have to pass the slide first to them so that they can read it first” (Tam, male, 32 years old). One senior faculty gave the SWVI the book she wrote for the course so that the student can convert it into Braille or audio book. “I have provided the textbooks I wrote and the reference materials for the students so that they can have them scanned and converted into Braille and audiobooks” (Xuan, female, 58 years old). In addition, some faculty observed SWVIs to see if they kept up with sighted students in class. Another faculty shared:

Another thing I often do in class is walking around the groups where SWDs sit so I can observe how they are doing. In addition, I always support them indirectly by speaking with their friends and classmates to help support them. It is a way to create a support circle for them (Tin, male, 57 years old).

A former dean shared his experience in guiding his faculty in instructing SWVIs by arranging seats and giving narratives for PowerPoint slides. “Second, ask faculty to eliminate using slideshows, pay attention to speak slowly and clearly, and arrange seats for students near the

instructor's desk so that they can record and hear better" (Vu, male, 70 years old).

Faculty's Flexibility. Faculty also underscored that they were flexible in teaching SWVIs. They gave SWVIs tests in an alternative format. For example, some faculty let SWVIs take oral tests while sighted classmates took written tests. In some cases when SWVIs took the written test together with sighted classmates, some faculty asked the proctor to read the questions of the test for SWVIs to write in Braille or computer and they submit the answer at the same time with their sighted classmate by email or save them in a USB.

Currently there is no exact guide for testing, so I am flexible. There will be someone to read the questions for SWVIs to write in Braille or type on the computer. Then they will complete the exam together with their classmates. After the exam time is over, they will submit their answers via email. Lecturers based on the time students submit their papers to confirm that they have taken the exam (Huynh, male, 47 years old).

A Lack of Disability Awareness. Findings also indicated a lack of disability awareness from faculty. This was expressed in statements that SWVIs cannot study sciences and some majors that intensively use math. One faculty from a college that offers majors in sciences revealed how her college was able to reject SWVIs.

Yes, my college still admits them, but my college will have a counseling session for students to let students know that with their physical condition, they may not be suitable for the majors of our college. Then I will give that advice and students decide whether to apply or not, it is up to students. But when I counsel them, I usually advise them not to apply to our college because at our college there are many dangerous majors for people with disabilities such as: chemical experiments, physical experiments, environmental experiments, etc. They are toxic and have a bad effect on the visually impaired, so when

a person with visual impairments registers, he or she will be consulted so that students will choose another college instead of ours (Kim, female, 43 years old).

Another faculty member stated that SWVIs should not study to become a foreign language teacher because of their limitation with mobility and visual images. “In my opinion, it's a bit difficult because teaching a foreign language requires visual images and class activities must be dynamic, which is the limitation of people with visual impairments” (Huynh, male, 47 years old). Besides, one faculty believed SWVIs would not study economics well. “Humanities and social sciences are an easy subject to study, not like economics, which will be more difficult for them” (Huynh, male, 47 years old).

One faculty member shared that all recreational activities of her institution did not focus on including SWDs. “Most recreational activities are also not for people with disabilities. For example, they can only listen to music and theater, then other activities do not focus on students with disabilities” (Kim, female, 43 years old). Next, faculty said that it was challenging for them to teach SWVIs if they did not have knowledge of psychology of PWDs. As a result, they could not build rapport with SWDs and it affected their teaching-learning activities.

The hardest part is communicating and understanding the psychology of people with disabilities. Because most people with disabilities feel very self-pity, including visual impairment or all other types of disabilities. The most important is to know how to build relationships with people without disabilities so that they do not discriminate against people with disabilities. When participating in learning, they often have low self-esteem and think that lecturers will not empathize with their disability (Bao, male, 42 years old).

Negative Attitudes. Despite showing care and support to SWVIs, faculty members still held negative attitudes about SWVIs. First, faculty believed having a SWVI in class meant they

had to work more to teach SWVIs. One faculty member said that he had to redesign assignments so that his SWVI could participate with sighted students. “For assignments, I have to design other programs for students with VI so that they can participate without feeling excluded or discriminated against in that class” (Tam, male, 32 years old). Second, some faculty thought SWVIs did not study as well as sighted students, but they had to admit them because of the specialization of her department. One faculty of Special Education stated that at her college most departments did not want to admit SWDs or SWVIs and pushed them to the Department of Special Education.

Depending on each department, some departments tried to get rid of them quickly. Lecturers of other departments will ... and the fact that everyone can see that other departments hate to admit people with disabilities in general and people with visual impairment respectively. They try to find a way to send those students to the Department of Special Education (Mai, female, 46 years old).

Third, when SWVIs requested support services, some faculty thought they were demanding or took advantage of everyone. One faculty member shared his thoughts about SWVIs who requested support for studying at college.

There are also students who take advantage of their disabilities to ask their friends and lecturers to help with this and that. To me. This is not very nice and not justifiable. In my opinion, students must be aware of their own disabilities and admit that disability is a normal thing in society, not have guilt or low self-esteem, acknowledge their limitations in order to study humbly. They should not take advantage of their disabilities to ask for people to do this or that for them (Huynh, male, 47 years old).

Similarly, SWVIs were considered as taking advantage of their disability when

requesting to take exams separately.

There are also some students with VI respectively and students with disabilities in general, sometimes they use their disabilities as an excuse to negotiate with faculty about exams and grades. Actually, I personally see that as a normal thing and even sometimes encourage them to do it so that they can be confident, but not all faculty see it that way because the specificity of each discipline has different aspects. There are some students who request to take the exam separately and give me this grade, so I think there's something about it like they take advantage of that (Tam, male, 32 years old).

Finally, some faculty stated that SWVIs did not meet the required standards of their departments, but they had to lower the standards for SWVIs so that they could graduate. “My students are not completely blind, so I still give the exam normally, but I have lower requirements for them” (Huynh, male, 47 years old). Another faculty member stated that her department gave SWVIs favorite treatment to non-disabled students.

It takes a lot of support if you want them to graduate with fairness, not compassion. Many students have a delusion of this major. And now, our department still has no way to support students to study in a fair and effective way, but we still have to give them preferential treatment (Mai, female, 46 years old).

Stigmatization and Discrimination. Findings from data analysis showed existing stigmatization and discrimination against SWVIs from faculty, students and society. For example, one participant who is an associate dean for student affairs of a college stated that her college was not suitable for SWDs and SWVIs because they taught sciences while SWVIs were not suitable to study sciences.

My school doesn't have a regulation about physical health for students at all, but I realize

that there are no blind students at my school because my school teaches natural sciences.

Natural sciences are not suitable for students with visual impairment. We have some students with disabilities but not many (Kim, female, 43 years old).

Another faculty retold the story of his male SWVI who experienced discrimination by his wife's family when married to a sighted woman. He was also not able to find a job with his degree after graduating from college due to his VI, thus he had to go back to the traditional job of PWVIs as a massager.

There is still a stigma in society. For example, the student I taught two students who love each other. The male is blind, so the female's family did not agree with their relationship. The two still decided to be together and had a child. The couple is struggling due to not being accepted by the family, so they don't receive any support from their family. The male after graduating from college returned to his old job as a massage therapist (Danh, male, 37 years old).

Another faculty who was the former deans of several universities shared his thoughts about discrimination against PWVIs.

Anyway, the community's view of the blind still has some reservations. In the eyes of ordinary people, especially those with low awareness, there is still a distinction here, not to say discrimination, but there is still a certain distinction between blind people and ordinary people. That's what I think needs to be solved, that's wrong thinking. Even the student community, including the society in general, needs to change, remove that distorted thinking. That is the first barrier (Vu, male, 70 years old).

4.5. Research question 4: What should be implemented so that Vietnamese college students with visual impairments can achieve academic success?

This section presents recommendations that Vietnamese students with visual impairments and faculty made to support academic success of SWVIs. The emerged theme for the recommendations focuses on removing attitudinal, environmental, and institutional barriers. The first part was recommendations from the SWVIs, and the second part was from the faculty (see figure 8).

4.5.1. SWVIs' Recommendations

Findings from data analysis revealed recommendations of Vietnamese SWVIs to have equal learning opportunities in higher education by removing barriers they encountered.

Removing Institutional Barriers. To remove institutional barriers in higher education, participants suggested the following measures: developing a disability policy at each college or university, changing current admission practices, establishing office for disability support services, providing training on disability for faculty and community, adjusting student's performance assessment standards, offering tuition waiver for PWDs regardless of family income, and providing equal learning and employment opportunities.

Developing a Disability Policy at Each College or University. Participants hoped colleges and universities would pay more attention to the education of SWDs by developing a specific policy or guideline to instruct faculty and staff on working with SWDs. One participant suggested colleges and universities to widely publicize their institutional policies for SWDs in a written document. "I think there should be a specific policy, accessible textbooks or appropriate curriculum. The public policies should be specified in writing, for instance, students with visual impairments may be exempt from certain inappropriate courses" (Thang, male, 26 years old).

Name	Files	References	Created on	Created by	Modified on	Modified by
RECOMMENDATIONS	0	0	9/19/2021 4:28 PM	TB	9/19/2021 4:28 PM	TB
Faculty Suggestions	0	0	10/5/2020 2:14 AM	TB	9/19/2021 4:29 PM	TB
Attitudes	0	0	9/21/2021 1:51 PM	TB	9/21/2021 1:51 PM	TB
Disability awareness	5	8	8/26/2021 2:28 PM	TB	10/14/2021 12:46 AM	TB
Environment	0	0	9/21/2021 1:51 PM	TB	9/21/2021 1:51 PM	TB
Accessible facilities	5	6	8/26/2021 2:29 PM	TB	10/13/2021 11:36 PM	TB
Appropriate social activiti	1	1	9/9/2021 12:26 AM	TB	9/17/2021 12:40 AM	TB
Career orientation	1	2	9/9/2021 12:26 PM	TB	10/14/2021 1:21 AM	TB
Employment support	3	4	8/26/2021 2:30 PM	TB	10/14/2021 1:11 AM	TB
Equipment needs	4	4	8/23/2021 1:33 PM	TB	10/13/2021 11:36 PM	TB
Skills needed	4	4	8/23/2021 1:22 PM	TB	10/14/2021 1:11 AM	TB
Institutions	0	0	9/21/2021 1:51 PM	TB	9/21/2021 1:51 PM	TB
Disability policy	6	10	8/23/2021 1:40 PM	TB	10/14/2021 12:46 AM	TB
Having a disability unit	2	2	8/23/2021 1:41 PM	TB	10/13/2021 12:42 AM	TB
Having a need assessmen	1	1	9/9/2021 12:35 AM	TB	9/17/2021 12:40 AM	TB
Training faculty	3	5	9/8/2021 11:56 PM	TB	10/14/2021 12:46 AM	TB
Student suggestions	0	0	9/19/2021 4:30 PM	TB	9/19/2021 4:30 PM	TB
Attitudes	0	0	9/22/2021 9:35 PM	TB	9/22/2021 9:35 PM	TB
Disability awareness	0	0	10/8/2021 11:32 PM	TB	10/8/2021 11:32 PM	TB
Disability voice	3	3	9/23/2021 12:03 AM	TB	10/9/2021 12:45 AM	TB
Discrimination and Stigm	2	2	10/8/2021 11:39 PM	TB	10/8/2021 11:43 PM	TB
Quality Education for SW	5	6	9/23/2021 12:30 AM	TB	9/23/2021 12:40 AM	TB
Environment	0	0	9/22/2021 9:35 PM	TB	9/22/2021 9:35 PM	TB
Accessible facilities	8	8	9/22/2021 11:51 PM	TB	10/12/2021 1:04 AM	TB
Accessible services	0	0	10/9/2021 11:59 AM	TB	10/9/2021 11:59 AM	TB
Accommodation	3	3	9/22/2021 11:54 PM	TB	9/23/2021 12:48 AM	TB
Learning Materials-Li	19	37	9/22/2021 11:44 PM	TB	10/9/2021 12:02 PM	TB
Personal aide	7	8	2/9/2021 1:35 PM	TB	10/9/2021 1:03 PM	TB
Social activities	4	5	9/23/2021 12:24 AM	TB	10/9/2021 2:37 PM	TB
Career counseling	9	11	10/9/2021 2:49 PM	TB	10/12/2021 1:46 PM	TB
Skills Training	0	0	10/9/2021 12:04 PM	TB	10/9/2021 12:04 PM	TB
Transportation	15	20	11/2/2020 3:23 AM	TB	9/23/2021 10:56 PM	TB
Institutions	0	0	9/22/2021 9:35 PM	TB	9/22/2021 9:35 PM	TB
Adjusting training assess	2	2	9/23/2021 12:21 AM	TB	10/12/2021 1:25 PM	TB
Admission	2	2	9/23/2021 12:31 AM	TB	10/6/2021 1:31 PM	TB
Disability policy	3	3	9/22/2021 11:49 PM	TB	10/12/2021 1:04 AM	TB
Employment opportunitie	17	24	9/22/2021 11:45 PM	TB	10/9/2021 2:37 PM	TB
Having disability support	12	15	9/23/2021 12:19 AM	TB	10/12/2021 1:14 PM	TB
Training faculty and com	3	3	9/22/2021 11:58 PM	TB	10/12/2021 1:14 PM	TB
Tuition waiver	4	4	6/4/2021 1:22 AM	TB	9/3/2021 8:42 PM	TB

Figure 8: Nvivo coding for question 4

Establishing Office for Disability Support Services. Most of the participants wanted colleges and universities to establish an office to specifically support students with special needs because SWDs have many unmet needs in attending colleges in Vietnam. One student stated, “There should be a separate department where students with disabilities contact directly when they have any problem” (Chau, female, 25 years old). Another participant also indicated the need to have a specialized office to support SWDs. “If there is a specialized Office/Bureau to assist students with special needs, I think the needs of students with disabilities would be resolved

more quickly” (Duyen, female, 27 years old). Besides, SWVIs wanted these services to be offered by the office for disability support services such as searching and converting learning materials in an accessible format, mediating between SWDs and lecturers, counseling, etc.

The university should reserve a bureau so that students with disabilities can contact the staff in that bureau to talk about their aspirations and difficulties during their studying at the university. For example, students can share their difficulties in searching learning materials, difficulties with using the libraries, accessing information, contacting the university, ... in order that lecturers can support and help them solve the problems (Khuong, female, 30 years old).

Providing Training on Disability for Faculty and Community. Participants wanted faculty to be equipped with skills to teach SWVIs so that they can teach SWVIs better. One student stated “Training lecturers in basic skills for teaching, for example, they just say a little more and explain a little more the formula m plus b , it will be easier for people with visual impairment to understand” (Thai, male, 25 years old). They also suggested providing disability training for the community so that everyone can have a better understanding of PWDs. Another participant added “There are training sessions for people without disabilities to better understand people with disabilities” (Thinh, male, 25 years old).

Providing Equal Learning and Employment Opportunities. All participants wanted to be given the opportunity to participate in employment in the field they were trained like sighted peers. One participant said, “The support for study, I have shared above, and for work, I hope that there will be more opportunities for us” (Hue, female, 27 years old). They wanted people to trust them and give them a try before rejecting them because of their disabilities. If they cannot complete the job requirements, they will leave, but they wanted to have an employment

opportunity first. “I hope society will create more opportunities for us to have job probation like normal people. If we do not meet the job requirements, we will accept to leave. In contrast, if we meet the job requirement, we hope to be offered the job” (Lan, female, 24 years old).

Importantly, SWVIs expressed their imperative hope to be employed and have their own income after graduation so that they can be financially independent from their family. “I hope that students with disabilities who finish college will have a job after graduation” (Chi, female, 26 years old). SWVIs believe that education will bring them knowledge first, then employment helps to show their own values. “I want to have a stable job after graduating from university. When I go to school I want to study further, maybe graduate school. I want to practice my own values” (Khuong, female, 30 years old). Another participant expressed her desire to land a job at a foreign company with her English skills after graduation so that she can support herself and will not be a burden for her family.

When foreign companies come here, they will also employ us in some positions, e.g. clients counseling. In general, this job is suitable for visually impaired people, so I think that I will finish college, then I will try my best to apply for this position so that I can have a more stable job and consequently, I can support myself and not be a burden for my mother. She takes care of many things. I do not want to make her worry about me anymore, so I try my best in studying and find a job to stabilize my life (Trang, female, 24 years old).

Participants also explained that if they were accommodated for their visual impairments, they would do their job as well as sighted people. “In terms of employment, people should be more open to people with visual impairment because there are a number of jobs, if there is support, people with visual impairment would do very well” (Nghia, male, 23 years old).

Furthermore, participants wanted to be employed in the field they are trained in because they witnessed many PWVIs could not find the job that matched their education after graduation. One participant said that she wanted to have a job working with children with disabilities after graduation because she doesn't want to do massage therapy for a living. "I want to have a job that is not doing massage anymore because doing massage is very tiring physically, restrictively, and has to deal with drunk customers. Until 35-40 years old I am not sure if I can do it anymore. I want to work in the disability field, especially children" (Chau, female, 25 years old). Therefore, participants hoped society would give PWDs an opportunity to participate in the workforce because they believed that there were several jobs suitable for SWVIs, especially jobs that use voice and intellectual thinking, but society did not give them a chance to work. They will do these jobs better than sighted people without a college degree.

Society must pay more attention to learning and employment for blind people, because blind people still walk, work, cook or do more advanced things. The job consulting company needs to strengthen more than the disabled and visually impaired because they can still take care of customers and still use their voice. If you can't speak with a high level of culture, it's not as good as someone who knows how to talk (Thin, male, 25 years old).

Changing Current Admission Practices. Participants expected more colleges and universities to admit SWVIs to study at their institutions. In addition, SWDs are allowed to study high-demand majors that students can easily find jobs after graduation such as foreign languages, journalism, law, and computer sciences. One participant wished "A number of universities have not yet enrolled PWVIs. For example, the Music Institution. At the same time, some disciplines do not enroll PWVIs, therefore something should be done so that people understand the problem

and agree to enroll PWVIs” (Lam, male, 31 years old).

Adjusting Student’s Performance Assessment Standards. Participants wanted colleges and universities to adjust the existing student’s performance assessment standards for rewards and scholarships because they believed those standards intentionally disqualified them from those awards. According to those standards, colleges and universities required them to actively participate in campus activities but those activities were inaccessible for them. As a result, SWVIs usually got low student’s performance scores and could not receive school-wide scholarships or awards.

I want to add a little bit about scholarships for SWVIs. Some SWVIs have good academic performance but couldn’t receive a scholarship because the scholarship requires students to actively participate in the university activities but SWVIs can’t participate in these activities. Therefore, I would suggest that universities change the criteria for the scholarship, it should be based on academic performance for SWVIs (Duyen, female, 27 years old).

Offering Tuition Waivers for PWDs regardless of Family Income. Participants expected colleges and universities to offer tuition waivers for SWDs regardless of family income because not all public universities offered tuition waivers for students with difficult circumstances although the disability law regulated that PWDs are entitled to tuition waiver. However, colleges understood the term “difficult circumstances” differently. Some colleges thought that having a disability means being with difficult circumstances while others referred to difficult circumstances as having a certificate of a near-poor household or poor household, therefore SWDs were required to show the proof of a poor or near-poor household to get tuition waiver. One participant suggested “The school should support tuition for students. Because if students do

not get the scholarship, it is very hard for the students” (Binh, male, 26 years old).

Removing Environmental Barriers. Participants suggested that higher education institutions and communities offer the following services to SWDs to create an inclusive environment that fosters academic success for all students. The adaptations should include, but not be limited to, developing accessible services namely accessible learning materials, digital library, accessible computer lab, personal aide, welcoming orientation for new-coming students, accommodation for students with special needs, and appropriate social activities for SWVIs; making facilities accessible to SWVIs; providing accessible transportation; providing social skills training for SWVIS; and offering career counseling.

Developing Accessible Services. Participants suggested colleges provide services in an accessible format to SWVIs. Services include accessible learning materials, digital library, accessible computer lab, personal aide, welcoming orientation, accommodation, and social activities.

The biggest challenge for most of the participants was access to learning materials and SWVIs hoped colleges would improve this. One participant expressed his hope:

For visually impaired students, the most important thing is to have enough learning materials. I have seen many visually impaired students who learn from the beginning to the end of the program but cannot read a single word in a book. I hope colleges and universities have not only printed books but also eBooks so that students with visual impairment can access them (Khiem, male, 24 years old).

Similarly, another participant said “I hope I will have enough documents. It’s so challenging for us to study. It takes us a lot of time to study if we do not have the documents. Asking friends for help has to depend on their time or searching from the internet also takes a lot of time” (Trinh,

female, 27 years old). Another participant expressed her urgent needs for learning materials.

I only need materials. Now I'm studying several courses. I need to read a lot. For my major, I need to read a lot. If there are materials, then I can have a lot of knowledge, and then when I am more knowledgeable, I can also exchange it with classmates to change their way of viewing visually impaired students (Trang, female, 24 years old).

They also wanted to have Braille books, audio books in the library for courses they study. "They should have a Braille version for important textbooks to make them easier for us to read and we will not be passive in the learning process" (Thien, male, 25 years old). If eBooks are not available, participants want to access audiobooks. "Funding to make audio books for the visually impaired and the media will convey these audiobooks to the visually impaired" (Trinh, female, 27 years old).

In addition to accessible learning materials, participants wanted to have a digital library at their college so that they can access more books beyond the textbooks. Access to digital libraries will help SWVIs save time from scanning and converting hard copy books to Word documents. One participant said "I really want to be able to access the electronic library. If I have access to learning materials, I will not need to spend so much time to convert documents into the Word version. I will have more time to read and participate in other social activities" (Huong, female, 22 years old). Another participant shared her expectation regarding learning materials and digital libraries. "Right now, I think the biggest need for the school is to support learning materials so that we can have better study conditions, and to establish a library or find a way so that we can access materials easiest and fastest" Anh, female, 24 years old).

Yet another participant wanted to have opportunities to read other books from the library. "I hope that I will be provided with devices or materials so that I have a chance to have access to

reference books and textbooks outside of the required ones” (Khuong, female, 30 years old). The digital library will benefit not only SWVIs but sighted students. One participant said “I think that the university should encode library materials into electronic libraries. It will be suitable not only for us but also convenient for searching and referencing for non-visually impaired students” (Duy, male, 20 years old). In addition, participants suggested the library to have assisted devices for students with special needs to borrow to study. “I think that there should be more eBooks on campus, and sometimes we also need a recorder because many lecturers talked so fast that I couldn’t take notes. If I can borrow a recorder, I will record lectures to listen to again later” (Duyen, female, 27 years old).

Most computers at colleges were not accessible for SWVIs, therefore, participants wanted colleges to have some computers in the computer labs have screen readers installed so that SWVIs can use them at school. One participant stated, “I think each computer lab just needs to have a few computers installed with such software” (Thanh, male, 32 years old). Another participant added “The library should have computers with installed software for people with visual impairment, and audio books and documents” (Chi, female, 26 years old).

Participants hoped that colleges and universities would have a paid staff to support PWDs with moving around campus, reading print learning materials or other needs. One participant stated:

Universities or the government should pay staff who support people with disabilities because I see some people with disabilities have their assisted person paid through other sources. For example, hours they help with learning, moving, or something that they reasonably need support (Khuong, female, 30 years old).

Similarly, another participant explained his needs to have a personal aide a few hours per day to

help him with commuting around campus, converting learning materials into an accessible format, and registering for courses since the registration requires students to submit their registration form directly at the Registrar's Office.

I hope I'd have a friend to help me to go around the campus, to convert the format of learning materials when soft copies are not available, and to help me register for courses at the beginning of each term as it tends to get very crowded and I would have to wait until next term if I'm not quick enough to secure myself a spot (Quan, male, 20 years old).

Participants expected colleges and universities to offer a welcome orientation for freshmen before the school year started. The orientation would help them to know which courses to register in and provide useful information to help them transition well to college. One participant suggested having the orientation at the time students move into campus because the current welcoming session was held two weeks after the semester started, which less likely benefited students.

The current orientation which is usually organized about 2 weeks after the first day of class is fine but meaningless. It would be better to have an orientation to provide information and guidance when students just moved in campus. When new students just moved in, guiding them on admission procedures and then just having a welcome ceremony will be more reasonable. At that time students settle in better (Thanh, male, 32 years old).

Likewise, another participant discussed the benefit of having an orientation for incoming students in advance. "I think there should be an orientation for high school students in advance so that they know how to study in college, and what they need to prepare ahead, then it will be

better” (Chau, female, 25 years old).

Participants hoped colleges would accommodate their learning needs by exploring methods to help them study computer courses and physical education instead of giving them an exemption for those courses. One student expressed “The second problem is about subjects such as computers and physical education. Let's connect with schools for the blinds and find a way for us to have easy access so that we can learn computers and physical education effectively” (Anh, female, 24 years old). In addition, they wanted the instructor to have an appropriate method of teaching SWVIs such as describing the videos in class. The current method that SWVIs use is to ask a nearby classmate to describe it for them, but this method seemed to be so distracting to the class. “It would be brilliant if the teacher can find a way to describe videos they use as lesson illustrators, for it can be very distracting to have another student doing the job” (Hue, female, 27 years old).

One expectation that participants wanted to send to colleges is to have social activities that can include SWDs and SWVIs. One participant shared her frustration of being rejected to join social clubs at her college due to her visual impairments. She wanted colleges to pay attention to creating social activities that both SWDs and non-disabled students can participate in.

I suddenly remembered that I also wanted to participate in some skills clubs like communication and problem solving but also because of my limitations so I was not allowed to join the group. I do not know how to get engaged. We also want to participate in such activities but how to adapt these activities so that they are suitable for us so that our friends can join. Yes, university or society is always the same (Trang, female, 24 years old).

Another participant stated that having appropriate social activities on campus will remove the feeling of being isolated from their sighted peers for SWVIs.

I think people should give people with visual impairment a chance to meet sighted people such as allowing people with visual impairment to participate in activities that sighted people do. I think we should let people with disabilities and non-disabled people integrate together because I think if there are only people with disabilities, people with disabilities will commonly think that they are separated or isolated from society (Khuong, female, 30 years old).

In addition, one participant suggested organizing physical or sporting activities for SWVIs on campus to remove the idea that PWVIs cannot learn sport.

I have a wish that disabled people can still learn sports because sports are mainly theory, not practice. Practice is just an intensive course. For me, I specialize in traditional martial arts, thus I practice traditional martial arts as an intensive course, the rest of the courses students only learn to understand them in general (Thinh, male, 25 years old).

Making Facilities Accessible to SWVIs. Most participants expected facilities and public infrastructure to be disability friendly. They want elevators to have sound announcements; classrooms and rooms in the dorm to have Braille; sidewalks to have tactile warnings; and transportation for students within the campus. One participant expressed her wish.

If I have a wish, I want all classrooms to have Braille, the elevator has an automatic alarm system when going up or down the floors and have audio books or Braille books for references. The elevator system should have sounds, apartment suites, classrooms and rooms in the dorm need to have recognition signs, and there should be roads for people with visual impairment to walk on campus (Chi, female, 26 years old).

Another participant talked about the need to have a tricycle to help SWDs move around the campus. “Each school should have a tricycle service like DRD in order to assist the transportation of students with visual impairment” (Khiem, male, 24 years old). Participants also hoped the community would make public places accessible for PWDs. “At public places there should be accessible to people with disabilities such as toilets, danger signs, or maps are now very inaccessible for people with disabilities” (Thang, male, 26 years old).

Providing Accessible Transportation. Accessible transportation is a major challenge for all participants, therefore, participants suggested having accessible transportation on- and off-campus because the current transportation means was too challenging for them to use independently. Most of the time, they have to depend on sighted people to help them catch the right bus, get off, and walk to the classroom.

One participant shared that she had to depend on her friend to walk from the bus station to the campus which is a few kilometers. When she took weekend classes, sometimes she had to take the bus back home because she did meet any student at the bus station to lead her to the campus.

In addition, for me there are not always people at the bus station to guide me to the campus. Sometimes, I arrived at the bus station, but I needed to walk a few kilometers to the campus. If I meet a friend there, I will be fine to walk to the campus. But when I studied on Saturday, very few students went to school, so I was standing there waiting very long to see a friend who could help me to school. Sometimes I stood there for hours but met no one, thus I had to take the bus back home. I find it difficult to go to school (Trang, female, 24 years old).

Similarly, one participant stated “I recommend the university to find a method to help students

with visual impairments to be independent in their travel. It will be better for them to travel without depending on friends” (Toan, male, 32 years old).

Providing Social Skills Training. Participants hoped colleges would organize life skills training sessions for students with special needs such as computer skills, mobility & orientation (M&O), communication skills, etc. One student talked about the need to have computer skills. “I should know a little bit about computers, at least enough to serve my field of study” (Anh, female, 24 years old). Similarly, another participant discussed the role of computers in many aspects of life of PWVIs.

I also want to have more conditions to support students with visual impairment to continue to complete their studying and research tasks at the university as well as in society. A student like me desperately needs to use computers with specialized features such as text-reading software or information-rich audio libraries (Thuy, female, 23 years old).

Participants also wanted to learn communication skills because they believed it would help them build relationships effectively in higher education. “I think it is necessary to synthesize and guide the blind about communication skills before going to college. Because relationships in college would be much different from high school (Lam, male, 31 years old). In addition, another student explained that computer, English, presentation and independent living as important social skills with which colleges should equip SWDs.

I think basic soft skills like computer science. Going to school without the support of information technology is almost impossible to access and integrate. In addition, if you have English ability, it is also very good. Will you have the opportunity to interact with NGOs and international schools in the future? Those are basic skills, in addition, if

possible, there are presentation skills, independent living skills (Linh, female, 22 years old).

Finally, participants suggested teaching mobility & orientation (M&O) to help SWVIs move around campus. “Colleges that admit SWVIs should teach them mobility & orientation (M&O) in order to increase the self-mobility of SWVIs” (Khiem, male, 24 years old).

Offering Career Counseling. Participants believed that it would be helpful for their employment if colleges and universities offered career counseling sessions for both non-disabled and SWDs. “What I want is before going to college, universities and colleges should hold career counseling for us because it is very important” (Lam, male, 31 years old). Besides, colleges can also help to introduce SWDs to intern at companies because SWVIs thought companies rejected them as soon as they know that the applicant is a PWVI. Having an introduction from colleges will help companies believe in the quality of education that SWVIs receive. “I hope that after the universities have finished teaching SWVIs, they can introduce SWVIs to a place to try if possible. It is also difficult for SWVIs to apply by themselves because people neither accept nor allow a trial job when SWVIs apply themselves” (Bich, female, 27 years old).

Removing Attitudinal Barriers. Removing attitudinal barriers consist of increasing disability awareness of family members, faculty and sighted peers, and community; removing discrimination and stigmatization towards PWVIs; ensuring quality education for PWVIs, and respecting disability voices.

Increasing Disability Awareness. SWVIs wanted to change family’s awareness of their children with visual impairments. First, families should treat their child with visual impairments as other nondisabled children. Participants observed that their family did not give opportunities for a child with visual impairment to be independent. Parents tended to babysit their child with

visual impairments despite the child has been an adult. They expected parents should not overprotect their children with visual impairments, let them go out, and make their own decisions. One participant said that she hoped to change the awareness of the families so that PWVIs can become independent.

I think the main reason is that families are worried about the dangers of going out, so they don't let people with visual impairment go on their own. We need to change the awareness of families that have children with visual impairment and friends with visual impairment need to think more independently (Khiem, male, 24 years old).

SWVIs wanted faculty, staff, and sighted students to treat them as nondisabled people. Faculty should not lower the assessment standards or let them skip any session. SWVIs want to truly learn the knowledge but need to be accommodated for their visual impairments. One participant expressed her need to acquire knowledge. "Lecturers should not indulge and lower the assessment standards for students with disabilities so that the students will have the opportunity to learn more and appraise their own capabilities" (Huong, female, 22 years old). In addition, SWVIs wanted sighted students to have better understanding about PWVIs to avoid asking questions that insult PWVIs. For example, one participant recalled his encounter with sighted students. "I think sighted students should have a little understanding of the people with visual impairments and disabilities. Because, when I study many students suddenly asked me: How can you learn?" Furthermore, participants wanted sighted students to participate in exchange sessions with SWVIs to have better understanding and sympathy with PWVIs. "There needs to be a lot more exchange sessions between the blind and sighted to bring about more sympathy and compassion which cannot simply be done via talk shows" (Quan, male, 20 years old).

Most student participants suggested raising community awareness of disability as well as VI respectively so that they had a better understanding of people with disabilities and appropriate attitudes when interacting with PWDs. One participant expressed that “I just hope to change, in general, how to change the way people view the visually impaired, male and female” (Trang, female, 24 years old). In addition, another participant revealed that non-disabled people seemed to underestimate or overestimate the ability of PWVIs. They did not know what a person with visual impairments could and could not do.

Right now, I just want everyone to understand the difference between normal people and people with visual impairment to have more suitable activities. I see that some people do not really understand people with visual impairment, therefore there are many activities that people with visual impairment can do but they think people with visual impairment do not. In contrast, there are some activities that people with visual impairment cannot do but they think people with visual impairment can do, therefore sometimes people have inappropriate attitudes (Nghia, male, 23 years old).

SWVIs suggested a communication plan that included exchange activities that sighted people can join with PWVIs instead of only talk shows to change awareness of the society about PWVIs. They also suggested non-disabled people to not make any assumptions about PWVIs.

They rather ask PWVIs what they need and how to help them. Cuong shared his experience:

At my workplace, people tend to forget to ask what I need and how they can best help me. Rather, they often assume, which makes me feel like I’m a burden to them and as a result, I tend to put on the attitude of retreating into myself until I’ve found someone who understands and is willing to help me (Cuong, male, 26 years old).

Removing Discrimination and Stigmatization towards PWVIs. Students with visual

impairments also expected family, school, and community to not discriminate against or stigmatize PWDs. Within the family, they hoped parents would treat children with disabilities as equally as non-disabled children and a daughter with disabilities as equally as a son with disabilities. Besides, they also wanted parents of non-disabled peers to allow their children to befriend with PWDs. One participant stated that his friend's parents forbid her to hang out with him when they knew that he has visual impairments.

There is a question that I have been thinking about for a year, but I haven't yet figured out its answer. That friend is my friend, but her family members do not want her to play with me. Is there a way to change it, because I haven't yet figured it out? The key is her family, not her. She is influenced and separated by her family, now she doesn't dare to talk to me (Binh, male, 26 years old).

Another student expected lecturers to treat them like sighted students and understand their needs in order to support them in class. "I think the lecturers just need to treat us normally like other students and just pay more attention when there are students with disabilities in class to know what kinds of help they need" (Chau, female, 25 years old).

Ensuring Quality Education for SWVIs. Participants wanted colleges to ensure that the quality of education for SWVIs was the same to nondisabled students. One participant stated that SWVIs can confirm their true value if they receive education with the same quality to nondisabled students. "I think if the university assures the quality of our education, our values will be higher" (Lan, female, 24 years old). SWVIs also hoped colleges would create opportunities for them to have hands-on experiences at the field of education. Another student expressed her wish at the field education agency. "I only have one wish is that they should open up to create the best possible opportunities for me to work, to interact with children, to

experience, and to do what I can. do. Don't stop me or don't bring me there and force me to stay still at one corner” (Anh, female, 24 years old).

Listening to Disability Voices. Participants expected their voices to be listened to by faculty, staff, classmates and community. In multiple scenarios, school administrators, faculty and staff did not know about the presence of SWVIs in their institution and did not understand their needs. Therefore, SWVIs expected to establish a platform where college administrators and faculty could listen to their voices. One participant expressed his desire to meet administrators of his college to share challenges in pursuing higher education of SWVIs in Vietnam.

I think the first thing is that the administrators and academic advisors should have a meeting with all students with disabilities at least once or twice a year. Only through listening and sharing can the university know our problems and difficulties (Duy, male, 20 years old).

4.5.2. Faculty’s Recommendations

Like student participants, recommendations from faculty participants included removing institutional, environmental and attitudinal barriers.

Removing Institutional Barriers. At the institutional level, faculty participants suggested higher education institutions should develop an institutional disability policy, create units for disability support services, and provide disability training for faculty, staff and students to remove barriers.

Developing Institutional Disability Policy. Faculty suggested that colleges should develop their own institutional disability policy that reflects the core values of the national law on persons with disabilities but have specific guidance and measurements. One faculty proposed his idea “Colleges should build specific policies for each type of disability. Those policies should

be officially announced to all departments in the institution” (Huynh, male, 47 years old). In addition, faculty suggested colleges and universities to develop their own disability policy to publicize services that SWDs will receive from their institution and guide faculty on instructing SWDs.

For blind students to learn better, a system of support from the school administration is required. At the beginning, schools should make an official policy that lists benefits students with disabilities are entitled to, support from school and support from department. The policy should be as specific as possible so that departments that have yet had students with visual impairment can also refer to that policy to apply to SWVIs. This is part of the policy and the issue of teaching. The policy also tells lecturers to pay attention when teaching PWDs, there should be rules and guidelines for lecturers (Xuan, female, 58 years old).

According to faculty, university accreditation for accessibility should evaluate accessibility including different types of disability such as teaching materials and equipment for instructing students with hearing and/or visual impairments because the current accreditation for disability accessibility only examines accessibility of people with mobility disability. “Now in the process of school accreditation for accessibility issues, they are only testing for mobility such as availability of trails for PWDs. In terms of teaching materials, it is not yet mentioned in the auditing” (Tin, male, 57 years old).

Establishing an Office for Disability Support Services. Faculty suggested colleges and universities should establish an office for disability support services at their institution. The office will coordinate all services for SWDs in general and SWVIs respectively. The office will also study the needs of SWDs individually, thus it can design a need-based learning plan for each

SWD and support them better. One faculty proposed:

There should be a department dedicated to overseeing this. When SWDs enroll, they will receive and advise them from the beginning, help students understand themselves, what skills are needed when entering this environment, and methods to study. Providing such individual counseling for each student or each type of disability will be more effective than providing them with general counseling for the whole group. That department will accompany SWDs in the learning process and in life, provide counseling to help them overcome psychological difficulties, even provide therapy to help them overcome their self-pity, then they will deal with difficulties in a better way (Huynh, male, 47 years old).

In a similar vein, another faculty member recommended “Actually, I once suggested having a department that oversees SWDs because I teach not only SWVIs, but I teach several SWDs. Actually, my school is also quite open, my school also accepts LGBT students, and several SWDs” (My, female, 46 years old).

Providing Disability Training for Faculty. Faculty also suggested providing disability training for faculty because most faculty want to assist SWDs but due to a lack of knowledge of disability, they do not know how to teach SWDs appropriately. One faculty shared that there is a disability-related standard for K-12 teachers but there is not any similar standard for college faculty. Therefore, college administrators and faculty do not pay appropriate attention to teaching disability.

Educators must be educated. For the school leaders, we need to create chances for them to take courses related to the education of PWDs so that they have a good understanding, a good feeling, and a good belief about them. Only then the new policy will be sustainable, and policies will be carried out well. Currently, there are criteria related to

disability education in standards for high school teachers. However, there are no standards for university teachers. Teachers themselves have no requirements for this.

When a teacher becomes a leader, they need to have knowledge about it to give it proper care (Tin, male, 57 years old).

Similarly, another faculty emphasized the need to provide training for faculty on methods to teach SWDs and the faculty training should be guided by the institutional disability policy.

There should be supportive policies or guidelines for lecturers because regular instructors only teach students without disabilities when teaching SWDs, they need to have their own experience or methods to guide SWDs better, however, lecturers have not been trained on it (Huynh, male, 47 years old).

Removing Environmental Barriers. Looking at the environmental aspects, faculty participants suggested colleges should provide accessible facilities, teaching equipment, social skills training and employment support for SWVIs.

Building Accessible Facilities. Most faculty expected higher institutions to make their facilities accessible to SWDs. For example, they should put danger signs and remove obstacles on the pathway for SWDs.

Currently, our school has ramps for blind students, and there are buttons in the elevator.

However, I still don't feel good. I hope there will be danger indicators in other areas. At school, there are still many rough places so SWVIs still need support from a sighted friend (Mai, female, 46 years old).

Another faculty participant suggested improving accessibility for PWVIs in Vietnam and Ho Chi Minh City. He emphasized that it was necessary to improve transportation for PWVIs because the current system only served the majority but the number of PWVIs in Ho Chi Minh city was

large now.

The infrastructure system needs to be improved, especially transportation of PWVIs.

Infrastructure, especially traffic, needs to be taken into consideration when building it.

This issue is still overlooked now. It only serves the majority, not paying attention to special cases. The cases are not rare, the percentage of PWVIs living in Ho Chi Minh city is very large now (XXX).

Other faculty members suggested having colored sidewalks around campus for PWVIs. “Firstly, in terms of facilities, the school should have sidewalks for PWDs in general and people with a wheelchair respectively. people should paint sidewalks with colors that make PWVIs see easily” (Xuan, female, 58 years old).

Providing Teaching Equipment. Faculty suggested colleges and universities should provide educational equipment to faculty and SWVIs to improve education for SWVIs. One faculty hoped colleges and universities would provide a laptop to each SWVI who could not afford it. “Many disadvantaged students cannot equip themselves with learning equipment such as computers, thus they must be supported” (Danh, male, 37 years old). Another faculty suggested the state, colleges and organizations to collaborate to digitize and modernize teaching equipment to create a better learning environment for SWVIs.

The state, special schools, non-governmental organizations, and organizations of the blind should have modern equipment to make students study easier. For example, providing digital books, arranging friends to read books for SWVIs, ordinary students and groups of students support each other to create conditions for them to study well (Vu, male, 70 years old).

Providing Social Skills Training. Faculty participants suggested teaching social skills to

SWVIs to help them build self-esteem and integrate with peers and community.

People with disabilities in general and people with visual impairments respectively sometimes feel self-pity especially when they first went to college, they tended to self-isolate. Many of them have difficult circumstances, so they are afraid to go out with friends. Gradually, through interaction with friends, with the help of teachers, they have changed. In social work, there are courses on life skills that they can learn and change even more (Danh, male, 37 years old).

Supporting SWVIs with Employment after Graduation. Faculty suggested colleges and universities should support SWVIs to obtain employment after graduation. They wanted SWVIs to have equal opportunity to participate in the workforce and receive equal wage as non-disabled people.

The State should have a policy so that SWVIs who graduate from college can find a job.

It is not a favor, but people should create conditions for them to show their abilities. I see that in HCMC there is a facility to accept SWVIs who have graduated from school for typing jobs. There is no such thing here. If there is any then the salary is also very low.

There should be a policy to employ them as a sighted person and receive an equal salary (Danh, male, 37 years old).

Another faculty member suggested higher education institutions and communities to help SWVIs to be able to work in an environment where they are trained. “There must be specific policies and programs such as job assistance after they graduate. Public or private agencies and organizations should pay attention to PWVIs. When they finish school, they should be employed in an environment and job that matches their ability” (Vu, male, 70 years old).

Providing Career Orientation. Faculty participants also underscored the need for career orientation sessions for SWVIs before they apply for colleges. One faculty believed that a career

orientation will help SWVIs choose the appropriate field of study and have a high chance for employment after graduation. “I still wonder about career orientation for SWDs because they themselves are not aware of it. Hopefully there will be a way to have career orientation right before applying for college, that is the best thing for students” (Mai, female, 46 years old).

Removing Attitudinal Barriers. To remove attitudinal barriers, faculty suggested increasing disability awareness and educating faculty, staff, students and community about PWVIs.

Increasing Disability Awareness. Faculty suggested higher education institutions should organize activities to raise awareness of sighted students, faculty and staff, and community about disability. They wanted non-disabled people to change their view of PWDs as incapability and discriminatory attitudes towards PWDs. One faculty recommended:

I think the first change should be from non-disabled friends in the community. They should change their perceptions of PWDs, avoid their inner attitudes of seeing PWDs and PWVIs as incapable to avoid discrimination against PWDs. That's the first thing, we must education the community to avoid discrimination against PWDs (Bao, male, 43 years old).

Educating Community about PWVIs. Participants wanted to educate everyone about PWVIs so that the community would treat PWVIs with dignity and respect. One faculty member recommended: “As I said, we must educate and communicate with the community about PWVIs. Don't look at them with pity, treat them equally like everyone else” (Vu, male, 70 years old).

4.6. Summary

The first section of this chapter presented demographic data of the participants including 30 SWVIs and 10 faculty. The second part addressed the first research question focusing on the

experience of SWVIs. The experience was explored through the lens of the social model of disability theory which viewed barriers influencing academic achievements of SWVIs as institutional, environmental and attitudinal factors. In addition, those factors were also examined in each system of the ecological system surrounding an individual namely family, school, and community. At the individual system of SWVIs, level of visual impairment, gender, socio-economic status (SES), and adaptation skills were factors that impacted their higher education experience. At the family system, institutional factors included gender inequality and gender-focused violence. Besides, family SES, overprotective parents, sibling education, family relationships, and family support were environmental factors in the family system. Attitudinal factors in the family system consisted of a lack of disability awareness, negative attitudes, and discrimination and stigmatization. At the school system, institutional factors included institutional disability policies, admission rejection, and inappropriate assessment criteria. Interestingly, the school environments differed significantly between international and domestic institutions. The environmental barriers at domestic institutions consisted of a lack of support services, inaccessible facilities, inaccessible learning materials, inaccessible libraries, a lack of participation opportunities, inaccessible transportation, and a lack of accommodation for testing. Attitudinal factors of the school system included care and support, disability awareness, negative attitudes, and discrimination and stigmatization. At the community system, institutional factors included social justice, company policies, and company policies; environmental factors included cultures, a lack of participation opportunities, inaccessible infrastructures, and unsafe environment; attitudinal factors included a lack of disability awareness, prejudice, and discrimination and stigmatization.

The third section of this chapter addressed the second research question which examined

if the experience was similar between male and female SWVIs. Most of the female participants stated that female SWVIs had more challenges than their male counterparts. However, most of the male participants stated that the challenges were the same for both genders.

The fourth section focused on faculty's experience in teaching SWVIs. Faculty and college administrators identified factors affected academic success of SWVIs such as institutional factors (college admission, disability policies), environmental factors (inaccessible facilities, a lack of learning materials and assistive devices, challenges with mobility and transportation, a lack of resources, a lack of employment opportunities, and services provided by colleges), attitudinal factors (care and support, flexibility, a lack of disability awareness, negative attitudes, discrimination and stigmatization).

In the last section, SWVIs proposed the following measures to create positive changes in higher education of SWVIs. The recommendations target removing institutional, environmental, and attitudinal barriers. To remove institutional barriers, SWVIs suggested to develop a disability policy at each institution, change current admission practices, establishing office for disability support services, providing training on disability for faculty and community, adjusting student's performance assessment standards, offering tuition waiver for PWDs regardless of family income, and providing equal learning and employment opportunities to PWDs. Next, higher education institutions should develop accessible services, make facilities accessible to SWVIs, provide accessible transportation, social skills training and career counseling for SWVIs. Finally, SWVIs suggested to have activities to remove attitudinal barriers: increasing disability awareness of family, faculty, sighted peers, and community; removing discrimination and stigmatization towards PWDs; ensuring quality education; and listening to disability voices. The faculty's recommendations included the following measures. Faculty suggested developing an

institutional disability policy, establishing an office for disability support services, and providing disability training for faculty to remove institutional barriers. In terms of environmental barriers, faculty suggested building accessible facilities, providing teaching equipment, providing social skills training, supporting SWVIs with employment after graduation, and providing career orientation. Finally, to remove attitudinal barriers faculty suggested increasing disability awareness and educating the community about PWDs.

CHAPTER 5: DISCUSSIONS, IMPLICATIONS, AND CONCLUSIONS

5.1. Discussions

Findings from this study align with previous studies which confirm that PWVIs had lower education outcomes than their sighted peers no matter where they live and YWVIs in developing countries had lower educational status than their peers in developed countries (Shakespeare, 2012; Dineen et al., 2003; Gilbert et al., 2008). Moreover, according to UNICEF (2013), approximately one out of ten children with disabilities in developing countries attends school, and most of them only complete primary school. In this study, the ages of student participants ranged from 20 to 32 with an average age of 25. This is higher than the average age of undergraduate students in the US, 21.8 years old (Hanson, 2021). It means that most of the student participants experienced a school delay or school gaps compared to their sighted peers.

Findings from this dissertation study help to explain some of the causes for low education outcomes of SWVIs in Vietnam and globally. Challenges faced by SWVIs were mainly caused by environmental inaccessibility: facilities, infrastructures, curriculum, library, and transportation. Like problems faced by SWVIs in developing countries (Alves et al., 2009; Banda-Chalwe et al., 2014; Stilwell & Majinge, 2013), SWVIs in Vietnam stated the most challenging problem for them was to obtain accessible learning materials. The social approach of the disability theory views these challenges as being the result of a lack of accommodation for SWVIs. If SWVIs are accommodated for their needs, their surrounding environment becomes more accessible, and they can fully participate in higher education as sighted students do.

The study's findings show a corroboration between interviews with faculty and SWVIs in some areas: namely a lack of institutional disability policies, inaccessible environment, and a lack of disability awareness from family, school, and society. However, there were also

differences in perceptions of faculty and SWVIs on challenges faced by SWVIs in higher education. Faculty believed they provided more support than what was required by their institution, while SWVIs stated that colleges and universities did not adequately meet their needs for support services.

The divergence can be explained from different approaches of disability theory. The SWVIs take the social approach of disability theory which stresses that PWDs are excluded from society because our society has failed to accommodate their differences compared to the majority of the population. If PWDs' differences are accommodated and their special needs are met, they can participate equally into society as non-disabled people.

Evidence for this can be found from the group of SWVIs who attended international colleges. They did not have many issues with accessibility on campus as SWVIs who studied at domestic colleges. On the other hand, faculty take more the charity (traditional) approach of disability theory which underscores that disability is a personal tragedy, and society needs to help PWDs by correcting the differences between PWDs and nondisabled people. Therefore, it is solely the responsibility of PWDs if differences cannot be fixed.

As a result, people who follow this school of thought believe that PWDs need to try harder than nondisabled people as a compensation for their disability. Findings from this study showed that faculty provided care and support to SWVIs, but they still had negative attitudes when students requested colleges to accommodate their special needs. Those indicated that several faculty members still employ the charity approach to disability.

Despite a few male SWVIs stating that there was no difference in terms of challenges for female vs. male SWVIs, the majority of SWVIs agreed that female SWVIs had more challenges in colleges. Confucianism and gender-based stereotypes that define the women's roles in the

family as childbearing and housewife and the men's role as the breadwinner caused many challenges preventing female SWVIs from pursuing higher education and careers.

This study added a new lens on the status of women with VI in Vietnam. Several participants confirmed that being a female in Vietnam has several disadvantages, therefore being a female with VI in Vietnam has double challenges. Consequently, female SWVIs had to encounter multiple barriers in attending colleges. This finding is reinforced by Malvika Iyer, a disability activist, at the United Nations Women. "Being a person with disability is challenging. Being a woman with disability adds extra challenges" (UN Women, 2017).

In addition to inaccessibility, SWVIs also experienced attitudinal exclusion in higher education. This study thus supports previous studies in both developed and developing countries which blames inappropriate attitudes and misconceptions about accommodation from faculty, staff, and sighted students as proportionally affecting SWVIs (Banda-Chalwe, Nitz, & De Jonge, 2014; Mafa, 2012; Ntombela & Soobrayen, 2013; Omede, 2015; Stilwell & Majinge, 2013).

Findings in this study showed that several faculty participants thought negatively about accommodating the special needs of SWVIs. One faculty member even believed that SWVIs took advantage of their visual impairment when they requested faculty to accommodate their needs in taking exams. "They should not take advantage of their disabilities to ask for people to do this or that for them" (Huynh, male, 47 years old).

Additionally, this study underscored the lack of training on disability for faculty, staff and students in higher education institutions. As a result, there was a lack of disability awareness on campus and people did not treat SWVIs with respect. Importantly, this study underscored that visible and subtle discrimination and stigmatization toward SWVIs still exist in higher education today. For example, SWVIs in this study felt isolated because sighted students did not interact

with them or sat in the same desk with them although the desk was designed for four to five students.

It is still a long way to change community attitude towards SWVIs as Denise Scherer Jacobson said in the *Crip Camp* that the disability revolution in the US was a victory for PWDs but they had to continue to fight for changing society's attitudes to have the law fully implemented "The ADA was a wonderful achievement. But it was only the tip of the iceberg. You can pass a law but until you can change society's attitudes, that law won't mean much." (Newnham, & Lebrecht, 2020). In fact, as mentioned above, given the lack of law enforcement in Vietnam, there is an urgent need to change society's attitudes about creating an inclusive environment for PWVIs and PWDs because according to Jeff Keller (2020) "attitude is everything." Changing attitude must come first in order to create changes in actions.

Furthermore, this dissertation also aligns with previous studies showing a lack of comprehensive institutional disability policy from colleges and universities in developing countries (Mosia & Phasha, 2017; Mutanga & Walker, 2017). In this study, the lack of a specific disability policy at college contributed to faculty not knowing how much to accommodate SWVIs and to their belief that they did more than the requirements. Nevertheless, SWVIs thought their needs for accommodation were not met.

This study also supports previous studies showing that self-adjustment, self-determination, and self-advocacy are the most important skills that SWVIs need to gain academic success. However, it is not easy for SWVIs to practice self-advocacy in the context of Vietnam. Due to the influence of Confucianism, people are trained to follow the ethical order of the society. It means that they have to respect the authority of the father in the family and the leader or the government in the society (Jacques, 2013). As a result, in family structures, women

have to obey and depend on the men. Children have to obey their parents and do everything for the sake of obedience. When going out into society, people continue this practice. Students are expected to be respectful to teachers by not showing their disagreements. Juniors and low-ranking employees rarely dare to challenge the power of the authority.

One new theme that emerged during data analysis, however, was the student participants did not use strong action verbs such as suggest, recommend, or request. Alternatively, they used soft verbs such as hope, want, and wish. One participant expressed that:

I hope the lecturer helps and creates more support for visually impaired students, but I do not dare to be satisfied or dissatisfied. I only know how to try to keep up with my friends but relying too much on help is not good. In general, self-effort is the main thing, and only asking for support for something cannot be done (Chi, female, 27 years old).

While this and other students gave voice to ideas, their voice was not as strong as it might be to bring about change.

This study contributes new findings to the body of knowledge on the higher education experiences of SWVIs in Vietnam. First, there was a lack of law enforcement in Vietnam regardless of several international treaties signed by the country. Vietnam enacted the National Law on Persons with Disabilities and ratified the UN CRPD about a decade ago, however, there is a long way to go to fully implement the laws. There are no official written instructions or mechanisms that specifically describe how to implement those disability laws within the country.

This dissertation traced this situation from the national to the organizational level. Thus, there is a need to develop a mechanism to examine, monitor, and evaluate the implementation of the law. In addition, PWDs do not fully understand their rights, and when their rights are violated, they do not know how to protect their legal rights. Thus, PWDs need to know their

rights under the law so that they can request their rights to be respected.

Second, findings from the study showed a lack of opportunity for SWVIs. Several student participants were rejected for college admission because of their visual impairments. They were also denied studying high-demand majors in colleges that accepted them. All the SWVIs participating in the study wanted to receive equal opportunities as their sighted peers. “I hope society will create more opportunities for us to have job probation like normal people. If we do not meet the job requirements, we will accept to leave. In contrast, if we meet the job requirement, we hope to be offered the job” (Lan, female, 24 years old). A lack of opportunities deprived SWVIs of meaningful participation in their social life. Like Jimmy Lebrecht said in the *Crip Camp*, when PWDs do not have knowledge of things, they will not be motivated to do them. Thus, in order to help PWDs to have a meaningful participation in society, we need to give them an opportunity to experience things. “What we saw at that camp was that our lives could be better. The fact of the matter is that you don’t have anything to strive for if you don’t know that it exists” (Newnham, & Lebrecht, 2020).

Third, intersectionality among several factors such as gender, hometown, and the SES affected higher education of SWVIs in Vietnam. For gender, female SWVIs faced more challenges than men. Besides, SWVIs who were born and grew up in urban areas had more conditions to study than SWVIs in the rural areas. Urban participants attend special schools earlier than rural students, and when they go to college their families usually take them to school and pick them up after school. Whereas rural students had to move to the city to study and stayed in the dorm or a budget motel by themselves. In addition, SWVIs from low-income families had several challenges because they lacked resources: They had to work as a street vendor to earn a living or did not have their own laptop to study.

The interactions between SES and disability is clearly expressed in the study. SWVIs at international colleges did not face many challenges with accessible facilities and learning materials because their colleges had an office for disability support services and a well-written disability policy. However, those students continue to feel isolated socially because of social class differences. International colleges charged extremely high tuition compared to domestic colleges. Therefore, students who attend international colleges are from middle-class or high-income families. Whereas all SWVIs who attend international colleges got a scholarship that fully covered their tuition for their excellent academic and community services, but they mostly are from working or low-income families. Hence, such interactions affect the integration of SWVIs in higher education.

5.2. Implications for Research

Although PWVIs accounted for a large proportion of the population of Vietnam, knowledge about this group has been missing in the literature. For example, the 2019 Vietnam Population and Housing Census which was conducted every ten years to examine the population changes only reported the number of people with disabilities that accounted for 3.7% of the total population aged 5 and older, however, data on people with disabilities and people with visual impairments was missing in this report. For example, the 2019 Vietnam Census reported on education of male vs. female Vietnamese in general but there was no information on education of people with disabilities in this study (Central Population and Housing Census Steering Committee, 2019).

Future Census reports should include data on all aspects of population and housing status of people with disabilities in general and people with visual impairments respectively in accordance with data for the general population such as: education status, employment, housing status,

marital status, birth rate, etc. When national data on people with visual impairments exists, researchers can draw more accurate conclusions on the status of PWVIs in Vietnam and suggest effective strategies to improve their well-being.

Since there is a scarcity of research on SWVIs in Vietnam, future studies should explore other life aspects of SWVIs such as employment during college and after graduation, access to public facilities, and social, cultural and political participation. More importantly, since findings from this study showed the academic marginalization of PWVIs was caused by institutional, environmental and attitudinal barriers, research is needed to study locally applicable strategies to remove each barrier. Quantitative methods that use rigorous research designs will help to identify the effectiveness of interventions to improve education outcomes of SWVIs, such as life skills training, support services, accommodation, M&O training, and career mentoring, whereas qualitative studies will help to gain perspectives from PWVIs on the interventions they receive. In such research, attention should give voice to visually impaired people, and include them in designing research about them.

Furthermore, most knowledge on visually impaired people comes from Western literature, thus it lacks data from developing countries. There is a need for filling this gap. However, there is a lack of local researchers who can carry on studies with rigorous design. A solution for this problem is to promote research on VI in developing countries through cooperation and collaboration among researchers globally. Another solution for it is to provide training on research for SWVIs who show their interest in doing research so that they have an opportunity to participate in doing research on things that matter to them. It is a way to empower SWVIs so that they can self-advocate for their rights as the slogan of the disability movement “Nothing about us without us.”

5.3. Implications for Policy

In Vietnam, the ratification of UNCRPD and the national law on persons with disabilities created the legal framework for protecting the rights and dignity of PWDs. However, the country lacks law enforcement and this is the major obstacle that affected PWDs. Therefore, disability stakeholders and activists should advocate for strengthening law enforcement to protect PWDs from being discriminated against. To achieve this, states should develop a mechanism or a guideline to clearly describe steps/procedure to implement the law on persons with disabilities nation-wide. In addition, it is required to allocate resources and funding to implement the law.

Additionally, there should be a mandate for each higher education institution to develop training on disability for their faculty, staff, and students. When people have a better understanding of disability, they will respect PWDs. Furthermore, PWDs should be trained on disability rights so that they can fight for their rights if people do not implement them. Many participants have not been aware of their rights as a person with disabilities, and they thought gaining college admission was the biggest achievement for them, thus they did not ask for anything. One participant shared “The law was passed, but the number of people who implement it is almost zero. Even people with disabilities may not read the law to know their rights” (Chau, female, 25 years old).

Findings from this dissertation showed a lack of institutional policies and regulations on how to support SWDs and SWVIs in higher education, thus it led to several discrepancies in the demand and supply of support services. On one hand, faculty and staff did not know how to support SWVIs and thought they provided more support than was requested. On the other hand, SWVIs believed that their needs for support services had not been met. Therefore, higher education institutions should be mandated to develop a comprehensive disability policy for their

institution to pass the accreditation. This institutional disability policy should clearly describe their responsibilities in providing no minimum than certain types of support services for each type of disability. For example, each college or university should have eBooks for all courses that SWVIs are studying at their institutions.

Besides, each college should establish a separate office for disability support services where SWVIs can come when they have needs. This office will coordinate all the support services to meet the needs of SWDs as well as SWVIs and is also a broker between faculty and SWVIs. Currently, only a small number of C/YWVIs can go to school and attend colleges. However, if there are more support services that accommodate the needs of SWVIs, more YWVIs will attend colleges and the office for disability services will be used in the full capacity.

Findings from this study showed that the learning environment on campus has yet to become accessible to SWVIs. Therefore, the institutional disability policy should require higher education institutions to make their campus accessible to SWDs including SWVIs. A solution for it is to apply the universal design, a design that is accessible to everyone regardless of disability status. Universal design will not only benefit SWDs and SWVIs but also all students of their institutions.

Policy should focus on removing the educational gaps between males and females with VI in Vietnam so that girls with VI have better access to education. When women with VI have higher education, they will generate positive changes in their lives and lives of people in their families and community. Research proved that education critically benefits women in developing countries – when women have higher education, they become more independent and could make important decisions on childbearing (Jejeebhoy, 1995), thus education for women with VI will also bring changes in their families and social changes subsequently.

SWVIs had fewer opportunities to be employed compared to their sighted peers with the same educational level. Therefore, policy should focus on eradicating employment gaps between YWVIs and sighted youth. Findings from the literature indicated that attitudinal barriers from public and society importantly affected employment of PWVIs, thus legislators should develop national programs to increase public awareness of VI respectively and disability in general. Then, more employers have better understanding of PWVIs, they will employ and know how to support employees with VI through providing accommodations. Additionally, legislators may have specific measurements for improving employment for women with VI since a higher percentage of women with sight loss were unemployed compared to their male counterparts.

5.4. Implications for Social Work Practices

Several implications for practice can be drawn. Using ecological theory and the social model of disability, social workers can advocate for removing barriers in health care, education, employment, and assistive technology so that PWVIs can live independently and integrate in the community.

As SWVIs viewed self-adaptation, independent living, M&O, self-advocacy, and social skills as important skills to help them obtain services they needed, service agencies can cooperate with colleges and universities to provide life skills training to them. Life skills training also needs to address skills that visually impaired youth lack such as building friendship and networking because SWVIs tend to isolate themselves because they think they are a burden for others.

To motivate SWVIs to attend higher education, there is a need to show SWVIs a prospect of being employed after graduation. Colleges and universities should have a career center to support every student including SWDs with career development and career mentoring. Besides,

higher education institutions should collaborate with nonprofit organizations to provide YWVIs with interventions that showed large-scale effectiveness to help them in their transition from college to employment.

In addition to providing YWVIs with social skills, living independently skills, job-readiness skills, and interviewing skills, schools can provide opportunities for SWVIs to have work experience. Work experience is an important indicator for being employed for SWVIs. In addition, social workers and vocational rehabilitation staff should communicate with employers before SWVIs are employed to make employers understand and offer opportunities to hire graduated SWVIs. Also, career counseling should be provided to YWVIs in high school or early years in college to psychologically prepare them for employment. Furthermore, rehabilitation staff should work with employers to advocate for SWVIs to receive appropriate accommodations at work. Career counselors also need to explore transportation and accessibility of SWVIs to help them integrate in the workforce.

Importantly, this study showed that faculty and community still held negative attitudes toward SWVIs. Thus, increasing knowledge and understanding of stakeholders such as teachers, faculty and students on disability to remove their negative attitudes towards PWVIs should be a key task for social workers. When faculty and staff receive training on VI and disability, they will understand challenges that SWVIs face and be willing to improve providing accommodations to these students.

5.5. Limitations

Despite having many strengths, this study has some limitations that I could not eliminate. Most of the faculty participants worked in special education, social work, and psychology although I tried to send fliers to multiple universities and colleges but not any faculty initiated to

contact me. I had to recruit faculty by emailing the flyers directly to faculty I knew in my social networks. Several faculty members did not reply to my flyers, some agreed to participate at first but did not schedule for the interview at the end. Finally, I was able to meet ten faculty participants but most of them worked in the social sciences field, thus their perceptions tended to be more supportive to SWDs and SWVIs. Therefore, perceptions of faculty participants might be biased.

Also, the perceptions of the student participants might be biased because of convenience sampling. I emailed the flyers to colleges and organizations that helped SWVIs in Vietnam. SWVIs initiated to contact me to show their interests in participating in the study. It was the first study that SWVIs in Vietnam participated in, and they wanted their voices to be heard thus they were willing to share their experiences. Some students talked more than the required 60-minute interview. They felt so excited when there was someone listening to their concerns.

Third, due to COVID-19 a third of interviews with SWVIs was conducted over the phone and SWVIs did not turn on their camera, thus there is a lack of observations of those participants compared to 20 SWVIs who I interviewed in person for the first period. The study would benefit more if I can interview student participants at their campus or at their home to directly observe them in their living environment.

Fourth, conducting this multiple case-based dissertation study is time consuming and costly. The data collection took almost two years for 40 cases because I myself conducted the interviews. I transcribed a few transcripts at the beginning. It took me about 7 hours to transcribe a 60-minute-interview. After that I paid SWVIs to transcribe the remaining interviews. I myself translated the transcripts from Vietnamese into English. I also paid one SWVI who was studying at an international college who uses English proficiently to translate his interview and five

interviews. One friend who has previous experience working with SWVIs volunteered to translate one interview. A total of 585-page data were collected and translated for this dissertation study. These factors limited my ability to gather data from more universities and areas in Vietnam.

5.6. Conclusion

Findings from data analysis of interviews with both SWVIs and faculty showed interactions between SWVIs and multiple systems such as family, school, and community that created several influencers on their higher education. Generally, some institutional, environmental and attitudinal factors were common across different systems. The common institutional factor was a lack of disability policies from higher education institutions. The common environmental factors include lack of participation opportunities, inaccessible facilities, inaccessible infrastructures and services, and inaccessible transportation. The common attitudinal factors included a lack of disability awareness, negative attitudes, and stigmatization and discrimination against people with visual impairments.

However, some factors are profoundly unique for each system. For example, the institutional factors of the family system consisted of gender inequality and gender-focused protection against violence while those factors of the school system were admission rejection and inappropriate students' performance assessment standards, and of the community system was social justice. The environmental factors of the family included SES, overprotective parents, siblings' education, family relationships and family support while a lack of support services was exclusively for the school system, and cultures and unsafe environment were exclusively for the community system. Finally, prejudice was exclusively an attitudinal factor in the community system.

This dissertation study is the first study about academic and campus experiences of Vietnamese students with visual impairments, especially attention is focused on gender-based differences and seeking data from both SWVIs and faculty. Faculty experiences corroborated SWVIs experiences on challenges and barriers faced by SWVIs on campus. Generally, they agreed that institutional barriers for SWVIs included rejecting college admission and a lack of institutional disability policy. Next, environmental barriers included inaccessibility to facilities, learning materials, assistive devices, transportation, and a lack of resources and employment opportunities for SWVIs. In terms of attitudinal barriers, faculty expressed that there were discrimination and stigmatization, negative attitudes, and a lack of disability awareness toward SWVIs.

However, some differences existed between faculty's perceptions and SWVIs' perceptions of services provided by colleges. Faculty believed colleges met the needs of SWVIs basically and SWVIs were demanding too much. On the other hand, SWVIs thought their needs for accommodation were not adequately met. The divergence between faculty and SWVIs reflects the different approaches that they used. Faculty used the charity approach that blames a disability as an individual problem and focusing on fixing the person with disability while SWVIs stand on the social model of disability which believes a disability exists when society fails to accommodate differences of a person with an impairment, thus this approach focuses on accommodate the special needs of people with impairments.

This study showed the status of females with VI in Vietnam. Due to the social and cultural context of Vietnam that highly values men over women, female SWVIs had more challenges in colleges. It restated the notion that being a female in Vietnam has several disadvantages, therefore being a female with VI in Vietnam has double challenges. Thus, female

SWVIs encountered more barriers in attending colleges compared to their male counterparts.

Finally, this study is also the first one to convey the voices of SWVIs in Vietnam. SWVIs were given opportunities to express their recommendations to improve the higher education environment. In addition, faculty also provided insights to change the education environment for SWVIs in Vietnam. Generally, recommendations from both SWVIs and faculty focused on removing institutional, environmental, and attitudinal barriers. Among the suggestions, they suggested to develop a disability policy at each institution, change current admission practices, establishing office for disability support services, providing training on disability for faculty and community, adjusting student's performance assessment standards, offering tuition waiver for PWDs regardless of family income, and providing equal learning and employment opportunities to PWDs. Next, higher education institutions should create an accessible environment including facilities, transportation, library, and learning materials. Finally, they suggested to remove attitudinal barriers by increasing disability awareness of family, faculty, sighted peers, and community; removing discrimination and stigmatization towards PWVIs; ensuring quality education; and listening to disability voices.

REFERENCES

- AFB. (2017). *Key definition of statistical terms*. Retrieved from <http://www.afb.org/info/blindness-statistics/key-definitions-of-statistical-terms/25>.
- Alves, C., Monteiro, G., Rabello, S., Gasparetto, M., & Carvalho, K. (2009). Assistive technology applied to education of students with visual impairment. *Revista Panamericana de Salud Pública*, 26, 148-152.
- Apple, M. W. (2013). *Can education change society?* New York, NY: Routledge.
- Babic, M. M., & Dowling, M. (2015). Social support, the presence of barriers and ideas for the future from students with disabilities in the higher education system in Croatia. *Disability & Society*, 30(4), 614-629.
- Baggett, D. (1994). *A study of faculty awareness of students with disabilities*. Paper presented at the Annual conference of the National Association for Developmental Education Kansas, MO.
- Banda-Chalwe, M., Nitz, J. C., & De Jonge, D. (2014). Impact of inaccessible spaces on community participation of people with mobility limitations in Zambia. *African journal of disability*, 3(1).
- Barnes, C., & Mercer, G. (1997). Breaking the Mould? An introduction to doing disability research. In C. Barnes & G. Mercer (Eds.), *Doing disability research* (pp. 1-14). Leeds, UK: The Disability Press.
- Beaty, L. A. (1994). Psychological factors and academic success of visually impaired college students. *RE: View: Rehabilitation and Education for Blindness and Visual Impairment*, 26(3), 131-139.

- Beilke, J. R., & Yssel, N. (1999). The chilly climate for students with disabilities in higher education. *College Student Journal*, 33(3), 364-372.
- Berry, G., & Mellard, D. (2002). *Current status on accommodating students with disabilities in selected community and technical colleges (Fall 1999-Spring 2001)*. Lawrence, KS: Kansas University in Lawrence, Center for Research and Learning.
- Blackorby, J., & Wagner, M. (1996). Longitudinal postschool outcomes of youth with disabilities: Findings from the National Longitudinal Transition Study. *Exceptional Children*, 62(5), 399-413.
- Blind Vietnamese Children Foundation (BVCI). (2012). Ecclesial projects to support the non-sighted in Vietnam. Retrieved from www.bvcf.net
- Bodaghi, N. B., Awang-Ngah, Z., & Noorhidawati, A. (2014). Student volunteers as academic saviours and social connectors among the visually impaired in an academic library. *Libri: International Journal of Libraries & Information Services*, 64(1), 40-48.
- Bodaghi, N. B., Cheong, L. S., & Zainab, A. N. (2016). Librarians empathy: Visually impaired students' experiences towards inclusion and sense of belonging in an academic library. *Journal of Academic Librarianship*, 42(1), 87-96.
- Bodaghi, N. B., & Zainab, A. N. (2013). My carrel, my second home: Inclusion and the sense of belonging among visually impaired students in an academic library. *Malaysian Journal of Library & Information Science*, 18(1), 39-54.
- Borland, J., & James, S. U. E. (1999). The learning experience of students with disabilities in higher education. A case study of a UK university. *Disability & Society*, 14(1), 85-101.
doi:10.1080/09687599926398

- Botsford, K. D. (2013). Social skills for youths with visual impairments: A meta-analysis. *Journal of Visual Impairment & Blindness*, 107(6), 497-508.
- Bouck, E. C. (2016). A national snapshot of assistive technology for students with disabilities. *Journal of Special Education Technology*, 31(1), 4-13. doi:10.1177/0162643416633330
- Bourne, R. R., Flaxman, S. R., Braithwaite, T., Cicinelli, M. V., Das, A., Jonas, J. B., . . . Naidoo, K. (2017). Magnitude, temporal trends, and projections of the global prevalence of blindness and distance and near vision impairment: A systematic review and meta-analysis. *The Lancet Global Health*, 5(9), e888-e897. doi:10.1016/S2214-109X(17)30293-0
- Brennan, S., & Sleightholm, M. (2006). *Participation and Activity Limitation Survey 2006: Facts on Seeing Limitations No. 3*. Ontario, Canada.
- Bronfenbrenner, U. (1976). The experimental ecology of education. *Educational Researcher*, 5(9), 5-15.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. (1994). Ecological models of human development. *Readings on the development of children*, 2(1), 37-43.
- Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen, G. H. Elder Jr., & K. Lüscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 619-648). Washington, DC: American Psychological Association.
- Bui, T. (2015). *Challenges and support for students with visual impairments in Vietnam*. Paper presented at the International Conference on Qualitative Inquiry, Urbana, IL.

- Bui, T. (2016). *Students with sight impairments in Vietnam: Their perceptions of challenges and barriers experienced at the university*. Paper presented at the Joint World Conference on Social Work, Education and Social Development, Seoul, South Korea.
- Bui, T. (2018a). *Experiences and Emotional Well-being of Vietnamese University Students with Visual Impairments at Home and in College: A Qualitative Study*. Paper presented at the 2018 Asia Pacific Islander Social Work Educators Association (APISWEA) International Conference, Hue, Vietnam.
- Bui, T. (2018b). *Vietnamese college students with visual impairments: A qualitative study of their experiences and emotional well-being*. Paper presented at the International Conference on Qualitative Inquiry, Urbana, IL.
- Bui, T. (2019). *Students with visual impairments in higher education in Vietnam: Faculty awareness on providing accommodations*. Paper presented at the International Conference on Qualitative Inquiry, Urbana, IL.
- Bui, T., & Ostler, T. (2018). *Speaking out: Vietnamese university students with visual impairments talk about their experiences and emotional well-being at home and in college*. Paper presented at the American Association of Behavioral and Social Sciences conference 2018, Las Vegas, NV.
- Bui, T., & Ostler, T. (2019). *Vietnamese college students with visual impairments: Their self-perceptions of stigmatization due to a disability and their coping strategies*. Paper presented at the Society for Social Work and Research (SSWR) 2019 Annual Conference, San Francisco, CA.
- Bui, T., & Ostler, T. (2020). *Vietnamese students with visual impairments: Perceptions of meaningful participation in college from an ecological and social approach*. Paper

- presented at the Society for Social Work and Research (SSWR) 2020 Annual Conference, Washington, DC.
- Butler, M., Holloway, L., Marriott, K., & Goncu, C. (2017). Understanding the graphical challenges faced by vision-impaired students in Australian universities. *Higher Education Research & Development*, 36(1), 59-72.
- Central Population and Housing Census Steering Committee. (2019). The Vietnam population and housing census of 00:00 Hours on 1 April 2019: Implementation organization and preliminary results. Retrieved October 19, 2021 from http://tongdieutradanso.vn/uploads/data/6/files/files/Bao%20cao%20so%20bo%20TDT%202019_tiang%20Anh_final.pdf
- Chataika, T. (2011, 2011). *Voices of disabled students in higher education in Zimbabwe: Struggles and coping mechanisms*. Paper presented at the Third Biennial AfriNEAD Symposium, Elephant Hills, Victoria Falls, Zimbabwe.
- Chhabra, S., Srivastava, R., & Srivastava, I. (2010). Inclusive education in Botswana: The perceptions of schoolteachers. *Journal of Disability Policy Studies*, 20(4), 219-228.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Thousand Oaks, CA: Sage publications.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches* (4th ed.). Thousand Oaks, CA: Sage publications.
- Crosby, O., & Moncarz, R. (2006). The 2004-14 job outlook for college graduates. *Occupational Outlook Quarterly*, 50(3), 42-57.

- Crosling, G., Cheng, M., & Lopes, R. (2017). Access to post-secondary education in Malaysia: Realities and aspirations. In G. Atherton (Ed.), *Access to Higher Education: Understanding Global Inequalities* (pp. 94-108). London, UK: Palgrave Macmillan.
- Cuturi, L. F., Aggius-Vella, E., Campus, C., Parmiggiani, A., & Gori, M. (2016). From science to technology: Orientation and mobility in blind children and adults. *Neuroscience & Biobehavioral Reviews*, 71, 240-251.
- D'Andrea, F. M., & Siu, Y.-T. (2015). Students with visual impairments: Considerations and effective practices for technology use. In D. L. Edyburn (Ed.), *Advances in Special Education Technology Volume 1: Efficacy of Assistive Technology Interventions* (pp. 111-138). UK: Emerald Group Publishing Limited.
- Dandona, L., & Dandona, R. (2006a). Revision of visual impairment definitions in the International Statistical Classification of Diseases. *BMC Medicine*, 4, 7-7.
doi:10.1186/1741-7015-4-7
- Dandona, L., & Dandona, R. (2006b). What is the global burden of visual impairment? *BMC Medicine*, 4(6), 1-10. doi:10.1186/1741-7015-4-6
- Danes-Staples, E., Lieberman, L. J., Ratcliff, J., & Rounds, K. (2013). Bullying experiences of individuals with visual impairment: The mitigating role of sport participation. *Journal of Sport Behavior*, 36(4), 365-386.
- Dawn, R. (2017). *Educational achievement and psychosocial transition in visually impaired adolescents: Studies from India*. Singapore: Springer.
- Dawn, R. (2018). Visual impairment and psychosocial development. In R. Dawn (Ed.), *Educational achievement and psychosocial transition in visually impaired adolescents: Studies from India* (pp. 15-48). Singapore: Springer.

- Denzin, N. K., & Lincoln, Y. S. (2003). *The landscape of qualitative research: Theories and issues* (Vol. 1). Thousand Oaks, CA: Sage.
- Department for Education. (2018). *Special education needs in England 2018*. Retrieved from https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/729208/SEN_2018_Text.pdf
- Dick, T., & Kubiak, E. (1997). Issues and aids for teaching mathematics to the blind. *The Mathematics Teacher*, 90(5), 344-349.
- Dineen, B. P., Bourne, R. R., Ali, S. M., Huq, D. N., & Johnson, G. J. (2003). Prevalence and causes of blindness and visual impairment in Bangladeshi adults: Results of the National Blindness and Low Vision Survey of Bangladesh. *British Journal of Ophthalmology*, 87(7), 820-828.
- Douce, C. (2015). E-learning and disability in higher education. *Open Learning: The Journal of Open, Distance and e-Learning*, 30(1), 89-92. doi:10.1080/02680513.2015.1013529
- Douglas, G., McCall, S., McLinden, M., Pavey, S., Ware, J., & Farrell, A. M. (2009). *International review of the literature of evidence of best practice models and outcomes in the education of blind and visually impaired children*. County Meath, Ireland: National Council for Special Education.
- Douglas, G., & McLinden, M. (2005). Visual impairment In A. Lewis & B. Norwich (Eds.), *Special teaching for special children? A pedagogy for inclusion* (pp. 26-40). New York, NY: Open University Press.
- Duh, J. (2000). Sexual knowledge of Taiwanese adolescents with and without visual impairments. *Journal of Visual Impairment & Blindness*, 94(6), 385-395.

- Eckes, S. E., & Ochoa, T. A. (2005). Students with disabilities: Transitioning from high school to higher education. *American Secondary Education*, 33(3), 6-20.
- Eguavoen, E. O. (2016). ICT utilization as correlates of academic performance among students with visual impairment in Lagos State, Nigeria. *European Scientific Journal*, 12(13), 205-224.
- Emerson, R. W., & McCarthy, T. (2014). Orientation and mobility for students with visual impairments: Priorities for research. In D. D. Hatton (Ed.), *International Review of Research in Developmental Disabilities* (Vol. 46, pp. 253-280). Waltham, MA: Academic Press.
- Erickson, K. A., & Hatton, D. (2007). *Literacy and visual impairment*. Paper presented at the Seminars in Speech and Language, New York, NY.
- Erickson, W., Lee, C., & Von Schrader, S. (2012). *2011 Disability Status Report: United States*. Ithaca, NY: Cornell University Employment and Disability Institute (EDI).
- Erickson, W., Lee, C., & von Schrader, S. (2018). *2016 Disability Status Report: Maine*. Ithaca, NY: Cornell University Yang-Tan Institute on Employment and Disability (YTI)
- Fairweather, J. S., & Shaver, D. M. (1990a). Making the transition to postsecondary education and training. *Exceptional Children*, 57(3), 264-270.
- Fairweather, J. S., & Shaver, D. M. (1990b). A troubled future? Participation in postsecondary education by youths with disabilities. *The Journal of Higher Education*, 61(3), 332-348.
- Fichten, C. S., Asuncion, J. V., Barile, M., Ferraro, V., & Wolforth, J. (2009). Accessibility of e-learning and computer and information technologies for students with visual impairments in postsecondary education. *Journal of Visual Impairment & Blindness*, 103(9), 543-557.

- Fichten, C. S., Nguyen, M. N., Asuncion, J., Martiniello, N., Jorgensen, M., Budd, J., . . .
- Libman, E. (2015). An exploratory study of college and university students with visual impairment in Canada: Grades and graduation. *British Journal of Visual Impairment*, 34(1), 91-100. doi:10.1177/0264619615616259
- Finzen, A. (2016). Stigma and stigmatization within and beyond psychiatry. In W. Gaebel, W. Rossler, & N. Sartorius (Eds.), *The Stigma of Mental Illness-End of the Story?* (pp. 29-42). Heidelberg: Springer.
- Fonosch, G. G. (1980). Three years later: The impact of section 504 regulations on higher education. *Rehabilitation Literature*, 41, 162-168.
- Foster, A., & Resnikoff, S. (2005). The impact of Vision 2020 on global blindness. *Eye (Lond)*, 19(10), 1133-1135. doi:10.1038/sj.eye.6701973
- Freeland, A. (2006). *Transition of youth with visual impairments, multiple impairments, or deaf blindness: National Longitudinal Transition Study 2*. Retrieved from <http://www.afb.org/info/programs-and-services/public-policy-center/employment-and-rehabilitation/transition-of-youth-with-visual-impairments-multiple-impairments-or-deaf-blindness-nlts2/1235>
- French, S. (2017a). *Disabled people and employment: A study of the working lives of visually impaired physiotherapists*. Burlington, VT: Ashgate Publishing Company.
- French, S. (2017b). *Visual impairment and work: Experiences of visually impaired people*. New York, NY: Routledge.
- Fuller, M., Healey, M., Bradley, A., & Hall, T. (2004). Barriers to learning: A systematic study of the experience of disabled students in one university. *Studies in Higher Education*, 29(3), 303-318. doi:10.1080/03075070410001682592

- Garber, M., & Huebner, K. M. (2017). Visual impairment: Terminology, Demographics, Society. In M. C. Holbrook, T. McCarthy, & C. Kamei-Hannan (Eds.), *Foundations of education: Volume 1. History and theory of teaching children and youth with visual impairments (3rd Ed.)* (Vol. 1, pp. 50-72). New York, NY: AFB Press.
- Getzel, E. E., & Thoma, C. A. (2008). Experiences of college students with disabilities and the importance of self-determination in higher education settings. *Career Development for Exceptional Individuals*, 31(2), 77-84.
- Gilbert, C. E., Shah, S. P., Jadoon, M. Z., Bourne, R. R., Dineen, B. P., Khan, M. A., . . . Khan, M. D. (2008). Poverty and blindness in Pakistan: Results from the Pakistan national blindness and visual impairment survey. *BMJ*, 336(7634), 29-32.
doi:10.1136/bmj.39395.500046.AE
- Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. New York, NY: Simon & Schuster Inc.
- Gordois, A., Cutler, H., Pezzullo, L., Gordon, K., Cruess, A., Winyard, S., . . . Chua, K. (2012). An estimation of the worldwide economic and health burden of visual impairment. *Glob Public Health*, 7(5), 465-481. doi:10.1080/17441692.2011.634815
- Gori, M., Cappagli, G., Tonelli, A., Baud-Bovy, G., & Finocchietti, S. (2016). Devices for visually impaired people: High technological devices with low user acceptance and no adaptability for children. *Neuroscience & Biobehavioral Reviews*, 69, 79-88.
- Gottman, J. M. (1977). Toward a definition of social isolation in children. *Child Development*, 48, 513-517.

- Gray, G., & Wilkins, S. M. (2005). A snapshot of 2003-4: Blind and partially sighted students in Higher Education in England and Northern Ireland. *British Journal of Visual Impairment*, 23(1), 4-10.
- Graybill, C. M., Supalo, C. A., Mallouk, T. E., Amorosi, C., & Rankel, L. (2008). Low-cost laboratory adaptations for pre-college students who are blind or visually impaired. *Journal of Chemical Education*, 85(2), 243-247.
- Grönlund, Å., Lim, N., & Larsson, H. (2010). Effective use of assistive technologies for inclusive education in developing countries: Issues and challenges from two case studies. *International Journal of Education and Development using ICT*, 6(4), 5-26.
- Haegele, J. A., & Porretta, D. (2015). Physical activity and school-age individuals with visual impairments: A literature review. *Adapted Physical Activity Quarterly*, 32(1), 68-82.
doi:10.1123/apaq.2013-0110
- Haegele, J. A., Xihe, Z., & Kirk, T. N. (2018). Weekday physical activity and health-related fitness of youths with visual impairments and those with autism spectrum disorder and visual impairments. *Journal of Visual Impairment & Blindness*, 112(4), 372-384.
- Hall, E., & Wilton, R. (2011). Alternative spaces of 'work' and inclusion for disabled people. *Disability & Society*, 26(7), 867-880.
- Hanson, M. (2021). College enrollment & student demographic statistics. Education Data Initiative. Retrieved October 19, 2021 from <https://educationdata.org/college-enrollment-statistics>
- Harding, T., Blaine, D. D., Whelley, T., & Chang, C. (2006). A comparison of the provision of educational support to students with disabilities in AHEAD versus non-AHEAD

affiliated institutions *National Center for the Study of Postsecondary Educational Supports, University of Hawaii at Manoa.*

Hardman, M. L., Drew, C. J., & Egan, M. W. (2017a). Secondary education and transition planning. In M. L. Hardman, C. J. Drew, & M. W. Egan (Eds.), *Human Exceptionality: School, Community, and Family* (12 ed., pp. 79-93). Belmont, CA: Cengage Learning.

Hardman, M. L., Drew, C. J., & Egan, M. W. (2017b). Understanding exceptionalities in the 21st century. In M. L. Hardman, C. J. Drew, & M. W. Egan (Eds.), *Human Exceptionality: School, Community, and Family* (12 ed., pp. 2-23). Belmont, CA: Cengage Learning.

Harris, A., & Enfield, S. (2003). *Disability, Equality, and Human Rights: A training manual for development and humanitarian organizations* Oxford, UK: An Oxfam Publication in association with Action Aid on Disability and Development (ADD).

Harrison, A. G., & Wolforth, J. (2012). Findings from a pan-Canadian survey of disability services providers in postsecondary education. *International Journal of Disability, Community and Rehabilitation, 11*(1).

Harvey, R. D. (2001). Individual differences in the phenomenological impact of social stigma. *J Soc Psychol, 141*(2), 174-189. doi:10.1080/00224540109600545

Hatton, D. D. (2014). Advancing the education of students with visual impairments through evidence-based practices. In D. D. Hatton (Ed.), *International Review of Research in Developmental Disabilities* (Vol. 46, pp. 1-22). Waltham, MA: Academic Press.

Heppe, E. C. M., Kef, S., de Moor, M. H. M., & Schuengel, C. (2020). Loneliness in young adults with a visual impairment: Links with perceived social support in a twenty-year longitudinal study. *Research in Developmental Disabilities, 101*, 103634. Retrieved from doi:10.1016/j.ridd.2020.103634

- Hepple, B. (2010). The new single equality act in Britain. *The Equal Rights Review*, 5, 11-24.
- Hewett, R., Douglas, G., McLinden, M., & Keil, S. (2017). Developing an inclusive learning environment for students with visual impairment in higher education: Progressive mutual accommodation and learner experiences in the United Kingdom. *European Journal of Special Needs Education*, 32(1), 89-109.
- Hill, J. L. (1996). Speaking out: Perceptions of students with disabilities regarding adequacy of services and willingness of faculty to make accommodations. *Journal of Postsecondary Education and Disability*, 12(1), 22-43.
- Hiranandani, V. (2005). Rethinking disability in social work: Interdisciplinary perspectives *Ending disability discrimination: Strategies for social workers* (pp. 71-81). Boston, MA: Pearson Education, Inc.
- Holloway, S. (2001). The experience of higher education from the perspective of disabled students. *Disability & Society*, 16(4), 597-615. doi:10.1080/09687590120059568
- Hutcheon, E. J., & Wolbring, G. (2012). Voices of “disabled” post-secondary students: Examining higher education “disability” policy using an ableism lens. *Journal of Diversity in Higher Education*, 5(1), 39. doi: 10.1037/a0027002
- IDEA. (2004). *Amendments to Public Law No. 108-446, §602, USC 1401*. Retrieved from <http://idea.ed.gov/download/statute.html>.
- Idol, L. (2002). *Creating collaborative and inclusive schools* (2nd ed.). Austin, TX: Pro-Ed.
- Ivy, S. E., & Hatton, D. D. (2014). Teaching skill acquisition to individuals with blindness: A systematic review of response-prompting procedures. In D. D. Hatton (Ed.), *International Review of Research in Developmental Disabilities* (Vol. 46, pp. 55-100). Waltham, MA: Academic Press.

- Jacklin, A., Robinson, C., O'Meara, L., & Harris, A. (2007). Improving the experiences of disabled students in higher education. *Higher Education*, 1, 77-81.
- Jacob, N. (2005). Educating children with visual impairments in rural South India: Examining maternal belief profiles. *Disability & Society*, 20(3), 277-291.
doi:10.1080/09687590500060646
- Jacques, M. (2013). The changing nature of power in Asia: Highly distinctive characteristics of East Asian societies have shaped the region's politics. Are family traditions changing because of modernization? Retrieved September 23, 2021 from
<https://www.theglobalist.com/the-changing-nature-of-power-in-asia/>
- Jejeebhoy, S. J. (1995). Women's education, autonomy, and reproductive behavior: Experience from developing countries. *OUP Catalogue*.
- Johnston, M. (1996). Models of disability. *Psychologist*, 9(5), 205-210.
doi:10.3109/09638289709166831
- Kapperman, G., Koster, E., & Burman, R. (2018). The study of foreign languages by students who are blind using the JAWS screen reader and a refreshable Braille display. *Journal of Visual Impairment & Blindness*, 112(3), 317-323.
- Kaputa, T. M. (2013). Making open and distance learning inclusive: The Zimbabwe Open University's experience with people with disabilities. *Greener Journal of Educational Research*, 2(3), 392-401.
- Kef, S. (2002). Psychosocial adjustment and the meaning of social support for visually impaired adolescents. *Journal of Visual Impairment & Blindness*, 96(1), 22-37.

- Kef, S., Hox, J. J., & Habekothé, H. T. (2000). Social networks of visually impaired and blind adolescents. Structure and effect on well-being. *Social Networks*, 22(1), 73-91.
doi:10.1016/S0378-8733(00)00022-8
- Keim, J., McWhirter, J. J., & Bernstein, B. L. (1996). Academic success and university accommodation for learning disabilities: Is there a relationship? *Journal of College Student Development*, 37(5), 502-509.
- Keller, J. (2020). *Attitude is everything*. Jaico Publishing House.
- Kelly, S. M. (2009). Use of assistive technology by students with visual impairments: Findings from a national survey. *Journal of Visual Impairments & Blindness*, 103(8), 470-480.
- Kelly, S. M. (2013). Labor force participation rates among working-age individuals with visual impairments. *Journal of Visual Impairment & Blindness*, 107(6), 509-513.
- Kim, J. S. (2012). The effect of "read-aloud" as a test accommodation for students with visual impairments in South Korea. *Journal of Visual Impairment & Blindness*, 106(6), 356-361.
- Kim, W. H., & Lee, J. (2016). The effect of accommodation on academic performance of college students with disabilities. *Rehabilitation Counseling Bulletin*, 60(1), 40-50.
- Kimball, E. W., Wells, R. S., Ostiguy, B. J., Manly, C. A., & Lauterbach, A. A. (2016). Students with disabilities in higher education: A review of the literature and an agenda for future research. In M. B. Paulsen (Ed.), *Higher education: Handbook of theory and research* (Vol. 31, pp. 91-156). Switzerland: Springer.
- Kirchner, C., & Smith, B. (2005). Transition to what? Education and employment outcomes for visually impaired youths after high school. *Journal of Visual Impairment & Blindness*, 99(8), 499-504.

- Kirkwood, R., & McCall, S. (1997). Educational provision. In H. Mason & S. McCall (Eds.), *Visual impairment: Access to education for children and young people* (pp. 13-20). London, England: David Fulton Publishers.
- Koberlein, J., Beifus, K., Schaffert, C., & Finger, R. P. (2013). The economic burden of visual impairment and blindness: A systematic review. *BMJ Open*, 3(11), e003471. doi:10.1136/bmjopen-2013-003471
- Kohen, D., Uppal, S., Guevremont, A., & Cartwright, F. (2008). *Children with disabilities and the educational system — a provincial perspective*. Statistics Canada Retrieved from <https://www150.statcan.gc.ca/n1/pub/81-004-x/2007001/9631-eng.htm>.
- Konur, O. (2006). Teaching disabled students in higher education. *Teaching in Higher Education*, 11(3), 351-363. doi:10.1080/13562510600680871
- Lacey, J. N., & Crosby, O. (2004). Job outlook for college graduates. *Occupational Outlook Quarterly*, 48(4), 15-23.
- Lamichhane, K. (2012). Employment situation and life changes for people with disabilities: Evidence from Nepal. *Disability & Society*, 27(4), 471-485.
- Lamichhane, K. (2013). Disability and barriers to education: Evidence from Nepal. *Scandinavian Journal of Disability Research*, 15(4), 311-324.
- Lamichhane, K., & Okubo, T. (2014). The nexus between disability, education, and employment: Evidence from Nepal. *Oxford Development Studies*, 42(3), 439-453.
- Lancaster, S., Mellard, D., & Hoffman, L. (2001). Current status on accommodating students with disabilities in selected community and technical colleges. *Lawrence, KS: University Center for Research on Learning*.

- LeBeau, C. (2009). How well do academic library web sites address the needs of database users with visual disabilities? *Reference Librarian*, 50(1), 55-72.
- Lewis, S., Savaiano, M. E., Blankenship, K., & Greeley-Bennett, K. (2014). Three areas of the expanded core curriculum for students with visual impairment: Research priorities for independent living skills, self-determination, and social interaction skills. In D. Hatton (Ed.), *International Review of Research in Developmental Disabilities* (Vol. 46, pp. 207-252). Waltham, MA: Academic Press.
- Li, Z., Griffin-Shirley, N., Kelley, P., Banda, D. R., Lan, W. Y., Parker, A. T., & Smith, D. W. (2012). The relationship between computer and internet use and performance on standardized tests by secondary school students with visual impairments. *Journal of Visual Impairment & Blindness*, 106(10), 609-621.
- Lieberman, L. J., Houston-Wilson, C., & Kozub, F. M. (2002). Perceived barriers to including students with visual impairments in general physical education. *Adapted Physical Activity Quarterly*, 19(3), 364-377.
- Lightfoot, E., & Gibson, P. (2005). Universal instructional design: A new framework for accommodating students in social work courses. *Journal of Social Work Education*, 41(2), 269-277.
- Lincoln, Y. S., & Guba, E. A. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage Publications.
- Link, B., & Stuart, H. (2017). On revisiting some origins of the stigma concept as it applies to mental illnesses. In W. Gaebel, W. Rössler, & W. Sartorius (Eds.), *The stigma of mental illness - End of the story?* (pp. 3-28). Switzerland: Springer International Publishing.
- Mafa, O. (2012). Challenges of implementing inclusion in Zimbabwe's education system. *Online journal of Education research*, 1(2), 14-22.

- Marshak, L., Van Wieren, T., Ferrell, D. R., Swiss, L., & Dugan, C. (2010). Exploring barriers to college student use of disability services and accommodations. *Journal of Postsecondary Education and Disability*, 22(3), 151-165.
- Mask, P. R., & DePountis, V. (2018). The impact of transition services in facilitating college degree completion for students with visual impairments: Post-Bachelor's degree perspectives. *Journal of Postsecondary Education and Disability*, 31(1), 5-15.
- Maxwell, J. A. (2012). *Qualitative research design: An interactive approach* (3rd ed.). Thousand Oaks, CA: Sage publications.
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed. Vol. 41). Thousand Oaks, CA: Sage Publications, Inc.
- McCall, S. (1997). Historical perspectives. In H. Mason & S. McCall (Eds.), *Visual impairment: Access to education for children and young people* (pp. 1-12). New York, NY: Routledge.
- McDonnall, M. C., Cavanaugh, B. S., & Giesen, J. M. (2012). The relationship between parental involvement and mathematics achievement for students with visual impairments. *The Journal of Special Education*, 45(4), 204-215.
doi:<http://dx.doi.org/10.1177/0022466910365169>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2013). *Qualitative data analysis* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- Moore, M., & Slee, R. (2012). Disability studies, inclusive education and exclusion. In N. Watson, A. Roulstone, & C. Thomas (Eds.), *Routledge handbook of disability studies* (pp. 225-239). New York, NY: Routledge.

- Morgado, B., Melero, N., Molina, V., & Cortés-Vega, M. D. (2016, October). *Inclusive university classrooms the importance of faculty training*. Paper presented at the 2nd. International conference on higher education advances (HEAD'16), Editorial Universitat Politècnica de València, Spain.
- Moriña, A., Cortés-Vega, M. D., & Molina, V. M. (2015). Faculty training: An unavoidable requirement for approaching more inclusive university classrooms. *Teaching in Higher Education*, 20(8), 795-806.
- Mosia, P. A., & Phasha, N. (2017). Access to curriculum for students with disabilities at higher education institutions: How does the National University of Lesotho fare? *African Journal of Disability (Online)*, 6, 1-13.
- Moswela, E., & Mukhopadhyay, S. (2011). Asking for too much? The voices of students with disabilities in Botswana. *Disability & Society*, 26(3), 307-319.
- Mutanga, O., & Walker, M. (2017). Exploration of the academic lives of students with disabilities at South African universities: Lecturers' perspectives. *African Journal of Disability (Online)*, 6, 1-9.
- Muwana, F. (2012). *Zambian student teachers' attitudes toward including students with disabilities in general education classrooms*. (Doctoral Dissertation), University of Illinois at Urbana-Champaign.
- Muzemil, A. (2018). Campus physical environment accessibility for person with disabilities in the Ethiopian public universities. *International Journal of Multicultural and Multireligious Understanding*, 5(5), 286-302.
- National Center for Education Statistics. (2019). *Web tables - Profile of undergraduate students: Attendance, distance and remedial education, degree program and field of study*,

- demographics, financial aid, financial literacy, employment, and military status: 2015-2016 (NCES 2019-467)*. Washington, DC: U.S. Department of Education.
- National Center for Education Statistics (NCES). (2019). *The condition of education: Children and youth with disabilities*. Retrieved from https://nces.ed.gov/programs/coe/indicator_cgg.asp.
- National Federation of the Blind. (2019). *Blindness statistics*. Retrieved from <https://www.nfb.org/resources/blindness-statistics>
- National Health Service. (2013). *A disability history timeline: The struggle for equal rights through the ages*.
- Nees, M. A., & Berry, L. F. (2013). Audio assistive technology and accommodations for students with visual impairments: Potentials and problems for delivering curricula and educational assessments. *Performance Enhancement & Health*, 2(3), 101-109.
- Newman, L., Wagner, M., Cameto, R., & Knokey, A.-M. (2009). The post-high school outcomes of youth with disabilities up to 4 years after high school: A report from the National Longitudinal Transition Study-2 (NLTS2). *National Center for Special Education Research*.
- Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., . . . Swarting, M. (2011). *The Post-High School Outcomes of Young Adults with Disabilities up to 8 Years After High School. A Report from the National Longitudinal Transition Study-2 (NLTS2) (NCSE 2011-3005)*. Menlo Park, CA: SRI International.
- Newnham, N., & Lebrecht, J. (Directors/Producers). (2020). *Crip Camp: A Disability Revolution*. Retrieved from Netflix.

- Ntombela, S., & Soobrayen, R. (2013). Access challenges for students with disabilities at the University of KwaZulu-Natal: A situational analysis of the Edgewood Campus. *Journal of Social Sciences*, 37(2), 149-155.
- Oliver, M. (1996). Defining impairment and disability: Issues at stake. In C. Barnes & G. Mercer (Eds.), *Exploring the divide* (pp. 29-54). Leeds, UK: The Disability Press.
- Oliver, M. (1998). *Disability research: Politics, policy and praxis*. Leeds, UK: The Disability Archive, Center for Disability Studies, University of Leeds.
- Oliver, M. (2013). The social model of disability: Thirty years on. *Disability & Society*, 28(7), 1024-1026. doi:10.1080/09687599.2013.818773
- Oliver, M., & Barnes, C. (2012). *The new politics of disablement*. New York, NY: Palgrave Macmillan.
- Omede, A. A. (2015). The Challenges of Educating the Visually Impaired and Quality Assurance in Tertiary Institutions of Learning in Nigeria. *International journal of educational administration and policy studies*, 7(7), 129-133.
- Orr, A. L. (2012). Preparation Starts Early: High School-to-College Transition Activity Calendar. *Insight*, 5(3), 183.
- Papadopoulos, K., & Koutsoklenis, A. (2009). Reading media used by higher-education students and graduates with visual impairments in Greece. *Journal of Visual Impairment & Blindness*, 103(11), 772-777.
- Parker, A. T., & Pogrand, R. L. (2009). A review of research on the literacy of students with visual impairments and additional disabilities. *Journal of Visual Impairment & Blindness*, 103(10), 635-648.

- Pascolini, D., & Mariotti, S. P. (2012). Global estimates of visual impairment: 2010. *British Journal of Ophthalmology*, 96(5), 614-618. doi:10.1136/bjophthalmol-2011-300539
- Patton, M. Q. (2002). *Qualitative research & evaluation methods: Integrating theory and practice* (3rd ed.). Thousand Oaks, CA: Sage publications.
- Paul, S. (2000). Students with disabilities in higher education: A review of the literature. *College Student Journal*, 34(2), 200-211.
- Perkins, K., Columna, L., Lieberman, L., & Bailey, J. (2013). Parents' perceptions of physical activity for their children with visual impairments. *Journal of Visual Impairment & Blindness (Online)*, 107(2), 131-142.
- Pfeiffer, D. (2005). The conceptualization of disability In G. E. May & M. B. Raske (Eds.), *Ending disability discrimination: Strategies for social workers* (pp. 25-44). Boston, MA: Pearson Education, Inc.
- Pingry O'Neill, L. N., Markward, M. J., & French, J. P. (2012). Predictors of graduation among college students with disabilities. *Journal of Postsecondary Education and Disability*, 25(1), 21-36.
- Pinquart, M., & Pfeiffer, J. P. (2011). Bullying in German adolescents: Attending special school for students with visual impairment. *British Journal of Visual Impairment*, 29(3), 163-176. doi:http://dx.doi.org/10.1177/0264619611415332
- Pinquart, M., & Pfeiffer, J. P. (2012). Body image in adolescents with and without visual impairment. *British Journal of Visual Impairment*, 30(3), 122-131.
doi:10.1177/0264619612458098

- Rajohane Matshedisho, K. (2007). Access to higher education for disabled students in South Africa: A contradictory conjuncture of benevolence, rights and the social model of disability. *Disability & Society*, 22(7), 685-699.
- Rao, S. (2004). Faculty attitudes and students with disabilities in higher education: A literature review. *College Student Journal*, 38(2), 191-198.
- Ratcliff, J. J., Lieberman, L., Miller, A. K., & Pace, B. (2017). Bullying as a source of posttraumatic growth in individuals with visual impairments. *Journal of Developmental and Physical Disabilities*, 29(2), 265-278.
- Redpath, J., Kearney, P., Nicholl, P., Mulvenna, M., Wallace, J., & Martin, S. (2013). A qualitative study of the lived experiences of disabled post-transition students in higher education institutions in Northern Ireland. *Studies in Higher Education*, 38(9), 1334-1350.
- Reed, M., & Curtis, K. (2012). Experiences of students with visual impairments in Canadian higher education. *Journal of Visual Impairment & Blindness*, 106(7), 414-425.
- Sachs, D., & Schreuer, N. (2011). Inclusion of students with disabilities in higher education: Performance and participation in student's experiences. *Disability Studies Quarterly*, 31(2), Web.
- Sahlen, C. A. H., & Lehmann, J. P. (2006). Requesting accommodations in higher education. *Teaching Exceptional Children*, 38(3), 28-34.
- Samson, S. (2011). Best practices for serving students with disabilities. *Reference Services Review*.
- Savin-Baden, M., & Howell-Major, C. (2013). *Qualitative research: The essential guide to theory and practice*. New York, NY: Routledge.

- Savin-Baden, M., & Major, C.-H. (2013). *Qualitative Research: The Essential Guide to Theory and Practice*. New York, NY: Routledge.
- Schalock, R. L. (2004). The emerging disability paradigm and its implications for policy and practice. *Journal of Disability Policy Studies*, 14(4), 204-215.
- Shakespeare, T. (1996). Rules of Engagement: Doing disability research. *Disability & Society*, 11(1), 115-121.
- Shakespeare, T. (2012). Disability in developing countries. In N. Watson, A. Roulstone, & C. Thomas (Eds.), *Routledge handbook of disability studies* (pp. 271-284). New York, NY: Routledge.
- Shaw, A., Gold, D., & Wolffe, K. E. (2007). Employment-related experiences of youths who are visually impaired: How are these youth faring? *Journal of Visual Impairment & Blindness*, 101(1), 7-21.
- Shepherd, I. (2001). *Providing learning support for blind or visually impaired students undertaking fieldwork and related activities*. Gloucestershire, UK: Geography Discipline Network.
- Simui, F., Kasonde-Ngandu, S., Cheyeka, A. M., Simwinga, J., & Ndhlovu, D. (2018). Enablers and disablers to academic success of students with visual impairment: A 10-year literature disclosure, 2007–2017. *British Journal of Visual Impairment*, 36(2), 163-174.
- Singal, N. (2010). Doing disability research in a Southern context: Challenges and possibilities. *Disability & Society*, 25(4), 415-426.
- Siverman, D. (2017). *Doing qualitative research* (5th ed.). Thousand Oaks, CA: Sage Publications.

- Sniatecki, J., Perry, H., & Snell, L. (2015). Faculty attitudes and knowledge regarding college students with disabilities. *Journal of Postsecondary Education and Disability*, 28(3), 259-275.
- Spungin, S. J., & Huebner, K. M. (2017). Historical Perspectives. In M. C. Holbrook, T. McCarthy, & C. Kamei-Hannan (Eds.), *Foundations of education: Volume 1. History and theory of teaching children and youths with visual impairments (3rd Ed.)* (Vol. 1, pp. 3-49). New York, NY: AFB Press.
- Stake, R. E. (2013). *Multiple case study analysis*. New York, NY: Guilford press.
- Stilwell, C. (2014). ICT Use in Information Delivery to People with Visual Impairment and on Wheelchairs in Tanzanian Academic Libraries. *African Journal of Library, Archives & Information Science*, 24(2), 151-159.
- Stilwell, C., & Majinge, R. M. (2013). Library services provision for people with visual impairments and in wheelchairs in academic libraries in Tanzania. *South African Journal of Libraries and Information Science*, 79(2), 38-50.
- Sunggye, H. (2012). An alternative option to dedicated braille notetakers for people with visual impairments: Universal technology for better access. *Journal of Visual Impairment & Blindness*, 106(10), 650-655.
- TDKRA. (n.d.). *Transforming disability Knowledge, Research, and Activism project*: Carleton University.
- Terrell, S. R. (2016). *Writing a proposal for your dissertation: Guidelines and examples*. New York, NY: Guilford Publications.
- The World Bank. (2019). *Vietnam: Overview*. Retrieved from <https://www.worldbank.org/en/country/vietnam/overview>

- Thomas, G. (1997). Inclusive schools for an inclusive society. *British Journal of Special Education*, 24(3), 103-107.
- Tinklin, T., & Hall, J. (1999). Getting round obstacles: Disabled students' experiences in higher education in Scotland. *Studies in Higher Education*, 24(2), 183-194.
- Tinklin, T., Riddell, S., & Wilson, A. (2004). Policy and provision for disabled students in higher education in Scotland and England: The current state of play. *Studies in Higher Education*, 29(5), 637-657.
- Tom, S. L., Mpekoa, N., & Swart, J. (2018, 2018). *Factors that affect the provision of visually impaired learners in higher education*. Paper presented at the 2018 Conference on Information Communications Technology and Society (ICTAS).
- U.S. Department of Education. (2010). *Thirty-five years of progress in educating children with disabilities through IDEA*. Washington, DC. Retrieved from <https://www2.ed.gov/about/offices/list/osers/idea35/history/idea-35-history.pdf>.
- U.S. Department of Education. (2018). *The condition of education 2018 (NCES 2018-144): Educational attainment of young adults*. Retrieved from <https://nces.ed.gov/fastfacts/display.asp?id=27>.
- Ukeli, V. T., & Akem, I. A. (2013). Parental role in mathematics achievement of visually impaired students in Benue state. *Journal of Educational and Social Research*, 3(5), 25-25.
- UNFPA. (2011). *People with disabilities in Vietnam: Key findings from the 2009 Vietnam Population and Housing Census*. Retrieved from Hanoi, Vietnam: http://vietnam.unfpa.org/sites/default/files/pub-pdf/Disability_ENG.pdf

- UNICEF. (2007). *A human rights-based approach to education for all: A framework for the realization of children's right to education and rights within education*. New York, NY: United Nations Publications.
- UNICEF. (2011). *An analysis of the situation of children in Viet Nam 2010*. Retrieved from https://www.unicef.org/sitan/files/SitAn-Viet_Nam_2010_Eng.pdf
- UNICEF. (2013). *Children and young people with disabilities: Fact sheet*. New York, NY: United Nations Children's Fund.
- United Nations. (2006). *Convention on the Rights of Persons with Disabilities*. Retrieved from <http://www.un.org/disabilities/convention/conventionfull.shtml>
- United Nations. (2020). *Convention on the Rights of Persons with Disabilities* New York: United Nations Treaty Collection.
- UN Women. (2017). From where I stand: “Being a person with disability is challenging. Being a woman with disability adds extra challenges” Retrieved October 19, 2021 from <https://www.unwomen.org/en/news/stories/2017/6/from-where-i-stand--malvika-iyer>
- United States Census Bureau. (2017). High school completion rate is highest in U.S. history [Press release]. Retrieved from <https://www.census.gov/newsroom/press-releases/2017/educational-attainment-2017.html>
- USAID. (2018, June 12). Vietnam officials learn to implement disability conventions. Retrieved from <https://www.usaid.gov/vietnam/program-updates/jun-2018-vietnam-officials-learn-implement-disability-convention>
- Üstün, T. B., Chatterji, S., Bickenbach, J., Kostanjsek, N., & Schneider, M. (2003). The International Classification of Functioning, Disability and Health: a new tool for understanding disability and health. *Disability and Rehabilitation*, 25(11-12), 565-571.

- Vernon, A. (1997). Reflexivity: The dilemmas of researching from the inside. In C. Barnes & G. Mercer (Eds.), *Doing disability research* (pp. 158-176). Leeds, UK: The Disability Press.
- Vickerman, P., & Blundell, M. (2010). Hearing the voices of disabled students in higher education. *Disability & Society*, 25(1), 21-32. doi:10.1080/09687590903363290
- Vietnam Government Web Portal. (2010). *Law on Persons with Disabilities* Hanoi, Vietnam
Retrieved from
http://vanban.chinhphu.vn/portal/page/portal/chinhphu/hethongvanban?class_id=1&_page=1&mode=detail&document_id=96045.
- Vietnam National Institute of Ophthalmology (VNO). (2013). Prevention blindness: What are the solutions for white areas of ophthalmology? [Press release]. Retrieved from www.vnio.vn
- Vislie, L. (2003). From integration to inclusion: Focusing global trends and changes in the western European societies. *European Journal of Special Needs Education*, 18(1), 17-35. doi:10.1080/0885625082000042294
- Vlachou, A., & Papananou, I. (2015). Disabled students' narratives about their schooling experiences. *Disability & Society*, 30(1), 73-86.
- Vogel, S. A., Leyser, Y., Wyland, S., & Brulle, A. (1999). Students with learning disabilities in higher education: Faculty attitude and practices. *Learning Disabilities Research & Practice*, 14(3), 173-186.
- Wagner, M., & Blackorby, J. (1996). Transition from high school to work or college: How special education students fare. *Future of Children*, 6(1), 103-120.

- Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). After high school: A first look at the postschool experiences of youth with disabilities. A report from the National Longitudinal Transition Study-2 (NLTS2). *Online Submission*.
- Wagner, M., Newman, L., Cameto, R., & Levine, P. (2005). *Changes over time in the early post-school outcomes of youth with disabilities: A report of findings from the National Longitudinal Transition Study (NLTS) and the National Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.
- Wagner, M., Newman, L., Cameto, R., Levine, P., & Garza, N. (2006). An overview of findings from wave 2 of the National Longitudinal Transition Study-2 (NLTS2). *National Center for Special Education Research*.
- Walker, R. (1983). Three good reasons for not doing case studies in curriculum research. *Journal of Curriculum Studies*, 15(2), 155-165.
- Watchorn, V., Larkin, H., Ang, S., & Hitch, D. (2013). Strategies and effectiveness of teaching universal design in a cross-faculty setting. *Teaching in Higher Education*, 18(5), 477-490.
- WHO. (1980). International classification of impairments, disabilities, and handicaps: a manual of classification relating to the consequences of disease, published in accordance with resolution WHA29. 35 of the Twenty-ninth World Health Assembly, May 1976.
- WHO. (2001). *International classification of functioning, disability and health: ICF*. Geneva World Health Organization.
- WHO. (2012). *Global data on visual impairment 2010*. Retrieved from <http://www.who.int/blindness/GLOBALDATAFINALforweb.pdf>

- WHO. (2016). International Statistical Classification of Diseases and Related Health Problems 10th revision (ICD-10) Chapter VII H54 Visual impairment including blindness
- WHO. (2017). *Vision impairment and blindness: Fact sheet*. Retrieved from <http://www.who.int/mediacentre/factsheets/fs282/en/>
- Wolanin, T. R., & Steele, P. E. (2004). Higher education opportunities for students with disabilities: A primer for policymakers.
- Wolffe, K. E., Sacks, S. Z., Corn, A. L., Erin, J. N., Huebner, K. M., & Lewis, S. (2002). Teachers of students with visual impairments: What are they teaching? *Journal of Visual Impairment & Blindness*, 96(5), 293-304.
- Wong, M. E. (2014). Support for students with visual impairment in higher education in Singapore: Considering university publicity materials conveying disability services and support. *Centre for Advancement in Inclusive and Special Education (CAISE), Faculty of Education, The University of Hong Kong*, 2, 62-76.
- Wong, M. E., & Law, J. S. (2016). Practices of assistive technology implementation and facilitation: Experiences of teachers of students with visual impairments in Singapore. *Journal of Visual Impairment & Blindness*, 110(3), 195-200.
- Wong, M. E., & Libby, C. (2011). School, family and other influences on assistive technology use. *British Journal of Visual Impairment*, 29(2), 130-144.
doi:10.1177/0264619611402759
- Zablotsky, B., Bradshaw, C. P., Anderson, C., & Law, P. A. (2013). The association between bullying and the psychological functioning of children with autism spectrum disorders. *Journal of Developmental & Behavioral Pediatrics*, 1.
<https://doi.org/10.1097/DBP.0b013e31827a7c3a>

- Zebehazy, K. T., Zigmond, N., & Zimmerman, G. J. (2012). Performance measurement and accommodation: Students with visual impairments on Pennsylvania's alternate assessment. *Journal of Visual Impairment & Blindness*, 106(1), 17-30.
- Zeedyk, S. M., Rodriguez, G., Tipton, L. A., Baker, B. L., & Blacher, J. (2014). Bullying of youth with autism spectrum disorder, intellectual disability, or typical development: Victim and parent perspectives. *Research in Autism Spectrum Disorders*, 8(9), 1173–1183.
<https://doi.org/10.1016/J.RASD.2014.06.001>
- Zhou, L., Ajuwon, P. M., Smith, D. W., Griffin-Shirley, N., Parker, A. T., & Okungu, P. (2012). Assistive technology competencies for teachers of students with visual impairments: A national study. *Journal of Visual Impairment & Blindness*, 106(10), 656-665.
- Zuckerman, D. M. (2004). *Blind adults in America: Their lives and challenges*. Washington, DC.: National Center for Policy Research for Women and Families.

APPENDIX A: ABBREVIATIONS

AFB:	American Foundation for the Blind
AMD:	Age-related macular degeneration
APH:	American Printing House for the Blind
AT:	Assisted technology
BLS:	Bureau of Labor Statistics
BVA:	Best-corrected visual acuity
C/YWVIs:	Children and youth with visual impairments
EAH:	Education for All Handicapped Children Act
EBPs:	Evidence-based practices
ESEA	Elementary and Secondary Education Act
IAPB:	International Agency for the Prevention of Blindness
IDEA:	Individuals with Disabilities Education Act
ICF:	International Classification of Functioning, Disability, and Health
ICIDH:	International Classification of Impairment, Disability, and Handicap
LVA:	Low vision aids
MDGs:	Millennium Development Goals
MOLISA:	Ministry of Labor, Invalids, and Social Affairs
M&O:	Mobility and Orientation
NDs:	Nondisabled students
NLTS:	National Longitudinal Transition Study
PWDs:	People with disabilities
PWVIs:	People with visual impairments

STDs:	Sexually transmitted diseases
SWDs:	Students with disabilities
SWVIs:	Students with visual impairments
TVI:	Teacher of students with visual impairments
UNCRPD:	The UN Convention on the Rights of Persons with Disabilities
VA:	Visual acuity
VI:	Visual impairment
WBU:	World Blind Union
WHO:	World Health Organization
YWVIs:	Youth with visual impairments

APPENDIX B: DEFINITION OF TERMINOLOGY

Impairment: is the functional limitation within the individual caused by physical, mental or sensory impairment (Oliver, 1996).

Disability: is the loss or limitation of opportunities to take part in the normal life of the community on an equal level with others due to physical and social barriers (Oliver, 1996).

Visual impairment (VI): was assessed based on the best-corrected visual acuity (BVA), the best distance that people can see with eyeglasses or contact lenses. In this paper, VI includes moderate and severe VI.

Mild visual impairment: refers to a presenting BVA of less than 6/12 to 6/18 in the better eye.

Moderate visual impairment: refers to a presenting visual acuity (VA) of less than 6/18 to 6/60 in the better eye.

Severe visual impairment: reflects a presenting VA of less than 6/60 to 3/60 in the better eye.

Blindness: is a presenting VA of less than 3/60 in the better eye (Dandona & Dandona, 2006a; WHO, 2016).

Integration: refers to the process that places students with a disability in the same classroom with students without a disability and the students with disabilities are expected to change themselves to adapt to the unaltered environment. This is similar to the assimilation process of students with a disability to mainstream education (Idol, 2002).

Inclusion: has a broader meaning than integration although sometimes they were used interchangeably. It covers both removing segregation and improving the quality of education of students who are placed in integrated schools (Idol, 2002; Vislie, 2003). Inclusion is associated with an attitude of acceptance. It requires the education system to change its framework so that all children despite the disability status are treated equally (Thomas, 1997). The inclusive

approach implies that not only students with a disability are required to change but also the educational system has to be flexible in order to include every child.

Social Isolation: Social isolation is measured by observing the frequency of social interaction and network of a person; thus, it is objective and independent from the individual who is observed (Gottman, 1977).

Stigma: originated from Greek in the early age. It meant branding a tattoo on the skin of slaves or criminals to cause shame (Goffman, 1963; Link & Stuart, 2017).

Stigmatization: refers to a process of assigning negative perceptions to an individual because that person is considered as having a deviance from normal or accepted attributes by society (Finzen, 2016; Goffman, 1963; Harvey, 2001; Link & Stuart, 2017).

Discrimination: refers discrimination to “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” (United Nations, 2006)

Higher education: means post-secondary education or education that is delivered by colleges or universities (Douce, 2015).

Assistive technology (AT): refers to “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 a child with a disability (IDEIA, 2004, p. 118).

APPENDIX C: STUDENT FLYER

Recruitment Ad for Research Participation

We are looking for volunteers to participate in a study on life experiences of students with visual impairments in Vietnam. The primary objective of this study is to understand the challenges as well as support services available for male and female students (age 18 and over) with visual impairments at different campuses across Vietnam to advocate for necessary services for them and consequently help improve their academic performance. You will be interviewed directly or by the phone about your background, sight impairments, university settings, transition experiences, challenges and supports in attending college, and adaptation skills for academic success between 60-90 minutes. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort.

Eligible criteria:

- Being a Vietnamese
- Age: 18 – 30
- Being a college/university student in Vietnam
- Having sight impairments that make their only eye remains 20% or being blind

For more information, please contact Ms. Tuyen Bui, Ph.D. Student, School of Social Work, University of Illinois at Urbana-Champaign at tuyenbt3@yahoo.com, ttbui2@illinois.edu or +1.2175502840 (USA).

APPENDIX D: INFORMED CONSENT FOR STUDENTS

Informed Consent Form

Dear Participant,

I would like to ask if you are interested in participating in my study on life experiences of students with visual impairments in Vietnam when transitioning to an academic setting. This study will provide a vivid overview of how students with visual impairments deal with challenges posed in academic settings in Vietnam to advocate for necessary services for them and consequently help improve their academic performance. If you decide to be a part of the study, I will have interviews with you through the phone. I will ask you about your background, sight impairments, university settings, transition, social network, and social support.

In terms of the procedure, you will first receive this consent form by email. After you sign this consent form and send it back to the researcher, you will be contacted to schedule the formal phone interviews at your convenience. Participating in the study is an ongoing process which includes the phone interviews and follow-up phone calls or emails. The phone interview should last no longer than 90 minutes. I will take notes during the phone interview, therefore you may be asked to repeat your responses. The follow up interview via email including your responses to open-ended questions will be sent back to the participant for clarification and supplemental opinions. If you are sending by email, please see associated risks below.

Your participation is voluntary, and you can answer only those questions that you are comfortable with. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort. If you choose to withdraw, your data will not be used in the research study and will be destroyed. Whether you choose to participate or not will have no effect on your student status or how you will be treated at the campus. For completing the entire study, you will receive an incentive of \$10 in Vietnam Dong.

Your participation will bring benefits not only for you but also students with visual impairments and/or any kind of disabilities in general. The results will be used to advocate for services supporting students with disabilities across the campuses of the country. There are very low risks in participating in this research. However, if at any time during the interview you feel uncomfortable, please let me know. If you have extreme difficulty with the interview, or express any severe emotional reactions, I will terminate the interview. I may provide you with the contact information for free counseling services, if needed. If you choose to participate in the whole study and the follow-ups are conducted via email, please be aware that there are small risks to your confidentiality as your response will be connected to your email and the name associated with the email.

I will take the steps to ensure that your confidentiality and anonymity in the research will be honored. I will not use your name or any identifying information in the report or any presentations on the research. The interview notes will be used by only the researchers to analyze and will not be disseminated in any public place. The notes and data will be stored in a locked drawer. Electronic data will be stored in password protected computer files. There will be an exception for this promise of confidentiality if you express a wish or plan to hurt yourself or others. If this occurs, I will contact the coordinators of Nhat Hong center for people with visual impairments or Thien An shelter for the blinds and work to provide you with references for further support.

If you have any questions about your rights as a research participant, you may contact the office of the Institutional Review Board collected at the University of Illinois (217-333-2670). If you have any questions about the research project, contact the researcher at: Tuyen Bui at 217-550-2840 or write to me at the School of Social Work, 1010 W. Nevada, Urbana, IL 61801 or email me tuyenbt3@yahoo.com

Sincerely,

Tuyen Bui

Signed consent

Your signature below indicates that you have read and understand the description provided; I have had an opportunity to ask questions and my questions have been answered. I consent to participate in the research project. A copy of this Consent Form has been given to me for my records.

_____	_____	_____
Name of participant	Signature	Date

_____	_____	_____
Name of researcher	Signature	Date

APPENDIX E: FACULTY FLYER

Recruitment Ad for Research Participation

We are looking for volunteers to participate in a study on life experiences of students with visual impairments in Vietnam. The primary objective of this study is to understand the challenges as well as support services available for male and female students (age 18 and over) with visual impairments at different campuses across Vietnam to advocate for necessary services for them and consequently help improve their academic performance. You will be interviewed directly or by the phone about your experiences in teaching or providing educational services to students with visual impairment between 60-90 minutes. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort.

Eligible criteria:

- Being a Vietnamese
- Age: 25 – 65
- Being a college/university administrator or instructor at a college/university in Vietnam

For more information, please contact Ms. Tuyen Bui, Ph.D. Student, School of Social Work, University of Illinois at Urbana-Champaign at tuyenbt3@yahoo.com, ttbui2@illinois.edu or +1.2175502840 (USA).

APPENDIX F: FACULTY INFORMED CONSENT

Informed Consent Form

Dear Participant,

We would like to ask if you are interested in participating in our study on life experiences of students with visual impairments in Vietnam. If you decide to be a part of the study, we will interview you face to face or over the phone. We will ask you about using technology in teaching students with visual impairments, and your opinions on social skills and support services that students with visual impairments need in their higher education.

In terms of the procedure, you will first receive this consent form by email. After you sign this consent form and send it back to the researcher, you will be contacted to schedule a formal face-to-face or phone interview at your convenience. The interview should last from 60 to 90 minutes. With your permission, we would also like to tape-record the interview.

We do not anticipate any risk to you participating in this study. You can skip questions that you prefer not to answer. This study will bring no direct benefit to you, but it will benefit students with disabilities in Vietnam in general and students with visual impairments respectively. The results of the study will provide a vivid overview of how students with visual impairments deal with challenges posed in academic settings in Vietnam to advocate for necessary services for them and consequently help improve their academic performance.

Your participation is voluntary, and you can answer only those questions that you are comfortable with. You may withdraw from the research project for any reason, at any time without explanation or penalty of any sort. If you choose to withdraw, your data will not be used in the research study and will be destroyed. Whether you choose to participate or not will have no effect on your student status or how you will be treated at the campus. For completing the entire study, you will receive an incentive of \$5 or 110,000 Vietnam Dong.

If at any time during the interview you feel uncomfortable, please let me know. If you have extreme difficulty with the interview, or express any severe emotional reactions, I will terminate the interview. I may provide you with the contact information for free counseling services, if needed.

I will take the steps to ensure that your confidentiality and anonymity in the research will be honored. I will not use your name or any identifying information in the report or any presentations on the research. The tape-record and the transcription of the interview will be used by only the researchers to analyze and will not be disseminated in any public place. The notes and data will be stored in a locked drawer. Electronic data will be stored in password protected computer files. Faculty, staff, students, and others with permission or authority to see your study information will maintain its confidentiality to the extent permitted and required by laws and university policies. The names or personal identifiers of participants will not be published or presented.

If you feel you have not been treated according to the descriptions in this form, or if you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 217-333-2670 or e-mail OPRS at irb@illinois.edu. If you have any questions about the research project, contact the researcher at: Teresa Ostler (English only) at +1. 217- 244-5233, Email: ostler@Illinois.edu or Tuyen Bui (both English and Vietnamese) at +1. 217-550-2840 or write to me at the School of Social Work, 1010 W. Nevada, Urbana, IL 61801 or email me ttbui2@illinois.edu.

You will be given a copy of this form to keep for your records.

Statement of consent:

I have read the above information and have received answers to any questions I asked. I consent to take part in the study.

Your signature

Date

Your name (print)

In addition to agreeing to participate, I also consent to having the interview tape-recorded.

Your signature

Date

Your name (print)

Signature of person obtaining consent

Date

Printed name of person obtaining consent

This consent form will be kept by the researcher for at least three years beyond the end of the study.

APPENDIX G: INTERVIEW QUESTIONS

Demographic data

1. Please tell me about yourself (age, hometown, family background and economics).
2. Please tell me about your visual impairment (onset, cause, and severity of visual impairment).

Research question # 1: What are perceptions of Vietnamese students with visual impairments on their academic experience on campus?

3. Can you share about your college enrollment experiences (motivation, enrollment process, major, and reason to choose this major)?
4. Can you describe challenges with transitioning to college?
5. What kinds of available services for students with special needs have been provided at your campus (accessibility of these services, eligible criteria)?
6. What services did you use/are you using to support your studying at campus? How is the quality of these services? What services do you think would help you? Why?
7. How did you handle your studying at this college/university? What skills are you using to be academically successful?
8. What recreation activities do you participate in?
9. Have you been discriminated against or stigmatized (treated differently from the others or from sighted people) in your college/university?

Research question # 2: How similar or unique are challenges and support services that Vietnamese male vs. female students with visual impairments have experienced?

10. What kinds of challenges/ barriers have you faced in obtaining services?

11. Have you ever thought that you are being treated differently from those who also have visual impairments but opposite sex (male vs. females)? Please explain it.

Research question # 3: What are the experiences of faculty on instructing Vietnamese students with visual impairments?

12. What challenges or barriers do you face in teaching students with visual impairments?
13. What services/accommodations have been provided to students with visual impairments?

Research question # 4: What should be implemented so that Vietnamese college students with visual impairments can achieve academic success?

14. What changes do you want to see in order to support students with visual impairments for their academic success?

APPENDIX H: CODEBOOK

Name	Description
FACULTY PERCEPTIONS	It's the sensory experience of the world through which faculty gain information about the properties and elements of the environment.
Attitudes	A way of thinking or feeling about someone or something.
Care and support	Feeling supported and cared for. Faculty do things to help students with visual impairments feel included.
Equality	Students with visual impairments are treated in a way that supports them so that they have the same opportunities as other people.
Flexibility	Faculty's willingness to change or adapt to support students with visual impairments.
Lack of Disability awareness	A lack of understanding, acknowledging, and accepting individuals' experiences as they relate to disability.
Lower standards	Faculty have lower expectations or set up lower criteria to assess students with visual impairments.
Negative attitudes	Negative ways of thinking or feeling about people with visual impairments.
Stigma & discrimination	Experiencing barriers to services or participation or different treatments at school based on having a disability.
Environmental factors	Factors that relate to or arise from a person's surroundings.
Inaccessibility	Unable to access a space, resource, or service based on physical, emotional, educational barriers that do not accommodate a person's disability.

Lack of Employment	Students with visual impairments could not find employment after graduation.
Lack of resources	There were not enough materials, time, money, etc. to support higher education.
Learning materials	Textbooks, reference books, audio and visual materials, etc. that are used for teaching and learning activities.
Services Provided	Work done by one person or group that benefits another.
AT	Assistive technology includes devices that students with disabilities and faculty used for instruction.
Disability support unit	An office that focuses mainly on providing services that meet the needs of students with disabilities.
Large prints	Prints in a larger size, e.g. 200%, 300%, ...
Testing	Measures to assess students' quality or performance.
Tuition waiver- Scholarships	Students don't have to pay tuition or receive financial support for their education.
Transportation	A means to go from one place to another place.
Institutional factors	Factors that are of or relating to organized establishments, foundations, and societies.
Admission	The process of allowing someone to enter a place, organization, or institution.
Disability policies	Policies for persons with disabilities.
Assessment standards	Standards to assess students' quality or performance.
Discrepancies in policies	Differences between the law and the implementation of the law or a lack of consistency among different laws related to people with disabilities.

Lack of disability training	People are not trained on how to interact with people with disabilities.
Lack of institution policies	There is no policy on working with people with disabilities from college or universities.
No disability support unit	A lack of an office that focuses mainly on providing services that meet the needs of students with disabilities.
RECOMMENDATIONS	Suggestions to improve higher education for students with disabilities.
Faculty Suggestions	
Attitudes	
Disability awareness	Suggestions to increase understanding, acknowledging, and accepting individuals' experiences as they relate to disability.
Environment	
Accessible facilities	Making facilities accessible to students with disabilities.
Appropriate social activities	Having social activities friendly to students with disabilities.
Career orientation	Providing career orientation to students with disabilities.
Employment support	Supporting students with disabilities with employment after graduation.
Equipment needs	Providing teaching equipment for faculty to teach students with disabilities.
Institutions	
Disability policy	Developing disability policy at each institution.
Having a disability unit	Establish an office for disability services at each institution.
Training faculty	Providing disability training for faculty.

Student suggestions	
Attitudes	
Disability awareness	Suggestions to increase understanding, acknowledging, and accepting individuals' experiences as they relate to disability.
Community awareness	Suggestions to increase awareness of disability from the community.
Faculty-staff-sighted student awareness	Suggestions to increase awareness of disability from faculty, staff, and sighted students.
Family awareness	Awareness of disability from family members.
Disability voice	Opinions and views of people with disabilities on issues matter to them.
Discrimination and Stigmatization	Suggestions to remove unfair treatment/ stigmatization to people due to their disabilities.
Quality Education for SWVIs	Suggestions to ensure the quality of education for people with disabilities.
Environment	
Accessible facilities	Suggestions to make facilities accessible to students with disabilities.
Accessible services	Suggestions to make campus services accessible to students with disabilities.
Accommodation	
Learning Materials-Library	
Personal aide	

Social activities	
Career counselling	Suggestions to provide career counselling to students with disabilities.
Skills Training	Suggestions to provide social skills training to students with disabilities.
Life skills training	
M&O training	
Technology knowledge	
Transportation	Suggestions to provide transportation means to students with disabilities.
Institutions	
Adjusting training assessment standards	Suggestions to adjust students' performance assessment standards so that they won't assess activities in which students with disabilities cannot participate.
Admission	Suggestions to change the current admission practice that rejected students with visual impairments to study at some high-demand majors/colleges.
Disability policy	Suggestions to develop disability policy at each college/university.
Employment opportunities	Suggestions to provide equal learning and employment opportunities to students with disabilities.
Disability support services	Suggestions to establish an office for disability services at each college/university.

Training faculty and community	Suggestions to provide training on disability for faculty and staff.
Tuition waiver	Suggestions to provide tuition waiver to students with disabilities.
INTERSECTIONALITY	
Challenges and gender	Looking at challenges for males vs. females with visual impairments.
Different challenges	Different challenges for male vs. female with visual impairments.
Same challenges	Same challenges for male vs. female with visual impairments.
Disability and gender	Participants talk about their disability and gender together. They feel like one affects the other or that they influence each other. Or they talk about how girls with disabilities are treated or how boys with disabilities treat them.
Disability and SES	Looking at the impact of SES on disability.
Family support and gender	Looking at family support for male vs. female with visual impairments.
Gender and marriage	Looking at perceptions about marriage for males vs. females with visual impairment.
STUDENT PERCEPTIONS	It's the sensory experience of the world through which students with visual impairments gain information about the properties and elements of the environment.
FAMILY	
Attitudinal factors	Factors that relate to a way of thinking or feeling about someone or something.

Discrimination	Experiencing barriers to participation or different treatments in the family based on having a disability.
Lack of disability awareness	A lack of understanding, acknowledging, and accepting individuals' experiences as they relate to disability in the family.
Negative attitude	Negative ways of thinking or feeling about people with visual impairments from family members.
Environmental factors	Factors that relate to or arising from a person's surroundings.
Family economics	Income status of participants' family.
Family relationships	The relationship between participants and their family members.
Family support	Feeling supported and cared for. Parents do things to help you feel included.
Overprotective parents	Parents protect their children so much and do not allow them to make decisions for issues related to them.
Siblings' education	Education level of siblings.
Institutional factors	Factors that are of or relating to organized establishments, foundations, and societies.
Gender inequality	Different treatment for male vs. female with visual impairments.
Gender-focused violence	Violence that only happens to women/girls.
SCHOOL	
Attitudinal factors	Factors that relate to a way of thinking or feeling about someone or something

Care and support	Faculty provided care and support to students with visual impairments.
Discrimination & Stigmatization	Experiencing barriers to services or participation or different treatments at school based on having a disability.
Lack of disability awareness	A lack of understanding, acknowledging, and accepting individuals' experiences as they relate to disability in academic settings.
Negative attitudes	Negative ways of thinking or feeling about people with visual impairments from faculty, staff and students.
Environmental factors	Factors that relate to or arising from a person's surroundings.
Inaccessible facilities	Facilities are inaccessible for students with disabilities.
Inaccessible learning materials	Learning materials are not accessible for students with disabilities.
Inaccessible library	Libraries are not accessible for students with disabilities.
Lack of accommodations	There was no adjustment to help students with visual impairments in education.
Lack of participation	Students with visual impairments have less opportunities to participate on campus compared to sighted peers.
Lack of support services	There were not many services to help students with visual impairment self-sufficient in higher education.
Inaccessible transportation	People with disabilities faced many challenges using public transportation.

Institutional factors	Factors that are of or relating to organized establishments, foundations, and societies.
Admission rejection	People with visual impairments were rejected to study some majors without considering their academic records.
Department policies	Colleges/universities have a general policy for students with visual impairment that causes confusions for faculty/staff to implement it.
Inappropriate Assessment criteria	The assessment criteria were not appropriate to assess students with visual impairments' participation.
SOCIETY	
Attitudinal factors	Factors that relate to a way of thinking or feeling about someone or something.
Discrimination & Stigmatization	Experiencing barriers to services or participation or different treatments based on having a disability.
Lack of disability awareness	A lack of understanding, acknowledging, and accepting individuals' experiences as they relate to disability in the community.
Prejudice	An assumption or an opinion about someone simply based on that person's membership to a particular group.
Environmental factors	Factors that relate to or arising from a person's surroundings.
Cultures	
Inaccessible infrastructure	
Knowledge of rights	Participants understand the rights of people with disabilities.

Lack opportunity	Participants were not given equal opportunities as their sighted peers.
Unsafe environment	The living environment that contains dangers and hazards.
Institutional factors	Factors that are of or relating to organized establishments, foundations, and societies.
Company policies	Company's policies on hiring and employing people with disabilities.
National legislations	Vietnam laws on persons with disabilities.
Social injustice	Actions are taken that infringe upon a group's rights, marginalize their opportunities or treat them unfairly.
SWVI	The individual with a visual impairment system.
Adaptation Skills	Skills that participants used to adapt to the college environment.
Independent living skills	Including skills that participants used to be independent such as self-services, mobility and orientation, and doing house chores.
Networking	Interacting with others to exchange information and develop professional social contacts.
Peer support	People with disabilities connect to other people of their age group. They feel supported in the process of interacting with their peers.
Self-advocacy	Communicate their needs and request actions to meet their needs.
Self-determination	Participants can make their own decisions and control of their own life.

Self-motivated	Do something because of their own enthusiasm or interest without pressure from others.
Social skills	Any competence facilitates interactions and communications with others daily.
Technology use	Participants' knowledge and skills with using technological devices to meet their needs.
Demographics	Demographic information about the participants.
Age	Participants' age
Sex	Sex assigned when participants were born.
Visual impairment	
Cause	Causes of visual impairment
Onset	When did participants have a visual impairment?
Vision acuity	Their current level of visual impairment, how much can participants see?

APPENDIX I: MATRIX FOR THEME-BASED ASSERTION

Matrix for question 2: How similar or unique are challenges and support services that Vietnamese male vs. female students with visual impairments have experienced?

Utility Level: L (Low), M (Medium, H (High)

D (Difference)

Name	Gender	College major	Utility Level	School	Family	Society	Employment Opportunity	Comments
Thanh	M	Psychology						
Thien	M	Business Administration						
Toan	M	Law-Economics						
Duyen	F	Psychology	H	D	D	D		
Binh	M	Japanese studies	H	D	D	D		
Khiem	M	Music teacher training	M	Same	Same	Same		
Khuong	F	Psychology	M	D	Same	D		
Trang	F	Sociology	H	D	D	D	D	
Trinh	F	English translation	H		D			
Lan	F	Business English	H		D	D		
A. Lam	M	Special Education	M	Same	Same	Same		
Nghia	M	Folk music						

Bich	F	Special Education	M	D	Same	D		
Anh	F	Special Education						
Thai	M	Pre-college	H	D	D	D	D	
Thinh	M	Sport training						
Chau	F	Social work	H	Same	Same	No		
Chien	M	Information System	H	D	D	D	D	
Cuong	M	Business Admin	H	D	D	D		
Thang	M	Social work	H	Same	D	D		
Chi	F	Elementary Education	H	D	D	D		
Duy	M	Public Relation	H	D	D	D		
Linh	F	Professional Communication	H	D	Same	D		
Thuy	F	International Relation						
Huong	F	Social Work	M	Same	Same	Same		
Hien	F	TESOL	H	Same	Same	Same		
Hue	F	Psychology	H	D	D	D		
Hung	M	Social Work	H	D	D	D		
Minh	M	Psychology	H	Same	Same	D		
Quan	M	English Linguistics	H	Same	D	D	Same	

APPENDIX J: IRB APPROVAL



OFFICE OF THE VICE CHANCELLOR FOR RESEARCH & INNOVATION

Office for the Protection of Research Subjects
805 W. Pennsylvania Ave., MC-095
Urbana, IL 61801-4822

Notice of Approval: Amendment 02

December 09, 2020

Principal Investigator	Teresa Ostler
CC	Tuyen Bui
Protocol Title	<i>Perceptions of challenges and support services by Vietnamese students with visual impairments: A gender-based approach</i>
Protocol Number	16795
Funding Source	Unfunded
Review Type	Expedited 6, 7
Status	Active
Risk Determination	No more than minimal risk
Amendment	Adding research population, increasing enrollment, switching to virtual interviews and consent due to COVID-19
Approval Date	December 09, 2020 (Amendment)
Expiration Date	April 13, 2023

This letter authorizes the use of human subjects in the above protocol. The University of Illinois at Urbana-Champaign Institutional Review Board (IRB) has reviewed and approved the research study as described.

The Principal Investigator of this study is responsible for:

- Conducting research in a manner consistent with the requirements of the University and federal regulations found at 45 CFR 46.
- Using the approved consent documents, with the footer, from this approved package.
- Requesting approval from the IRB prior to implementing modifications.
- Notifying OPRS of any problems involving human subjects, including unanticipated events, participant complaints, or protocol deviations.
- Notifying OPRS of the completion of the study.

APPENDIX K: A SYNOPSIS OF EACH STUDENT PARTICIPANT

Thanh is a 32-year-old male whose visual impairments were caused by uveitis at aged 12 when he was in grade 5th of the primary school. He was born in the countryside district of Phu Yen, a province in the Central of Vietnam. He has 9 siblings: 6 older sisters, him, a younger brother, and a younger sister. His family has a low socioeconomic status. He is the first child in his family who attends college, now his youngest sister also goes to college. Although his family found his visual impairment when it started, the hospital in his hometown did not have the capacity to provide treatment for him and transferred him to the higher-level hospital in Ho Chi Minh City. However, due to lack of money, his family delayed receiving treatment for him until his eyes were untreatable. He stayed home for a year, then his family found a provincial school for special needs where he studied a few years to learn Braille but that school only offered elementary education, therefore he had to move to Danang to study at a boarding school for students with visual impairment during his middle school. For high school, he studied together with sighted students at an integrated school. Currently, he is a freshman at a college in Ho Chi Minh City majoring in psychology.

Thien is a 25-year-old male whose visual impairment was caused by uveitis at age 1 when he had one eye removed at a hospital in Hanoi, but the other eye was also infected and had to be removed at age 4 in a hospital in Danang. Although his family sought treatment for his eyes at an early age, his eye disease was untreatable. He was born and grew up in Danang, the biggest city in the Central of Vietnam. His family has a middle socioeconomic status. His parents are white-collar workers. He spent his school years at a boarding school for children with visual impairment in Danang and only went back home during the weekends or holidays. The boarding

school sent him out to study with sighted students during his middle school and high school. Currently, he is attending a college in Danang majoring in Business Administration.

Toan is a 32-year-old male who has visual impairment when he was 12 years old because he was hit by a hard object that led to the phthisis bulbi on his left eye, and his right eye had retina degeneration. His family did not have financial conditions to seek treatment for him because he was born and grew up in a rural area of Ha Tinh province, a poor province in the North Central of Vietnam. His family's economic status is low. He just graduated from an in-service training program at a college in Hanoi majoring in Law-Economics and is working at an association for people with visual impairment in his hometown.

Duyen is a 27-year-old female whose visual impairment was caused by a cataract at age 5 but due to financial constraints, her family delayed getting treatment for her until it was too late. She was born in a rural town in Lam Dong province, the Highland of Vietnam. Her parents are farmers and do not have a stable income, thus her family has a low socioeconomic status. At age 11, her family sent her to study at a boarding school for youth with visual impairment in Ho Chi Minh City. She lived there until she completed high school. Currently, she is living in the dorm and studying psychology at a college in Ho Chi Minh City.

Binh is a 26-year-old male whose visual impairment was a congenital cataract. He was born in Cu Chi, a rural district of Ho Chi Minh City. He got a visual impairment when he was born. His family helped him to receive seven surgeries, thus he could see partly with his left eye and he was completely blind when he was in grade 10th. His father passed away in 2002, thus his mother is the main breadwinner of the family. She is a factory worker. His family sent him to a boarding school for students with visual impairment in downtown Ho Chi Minh City to study since he was in grade 4th. He studied and lived there until he completed middle school. Then he

moved to an integrated school to study with sighted students in high school. Currently, he is attending a college in Ho Chi Minh City majoring in Japanese Linguistics.

Khiem is a 24-year-old male whose visual impairment has been caused by optic neuritis since he was born. His younger sister also has a visual impairment. He came from Dong Nai, a province in the South of Vietnam next to Ho Chi Minh City. His father is a safeguard for a company and his mother has a home daycare service. They have a middle socioeconomic status. He studied at the Center for children with disabilities in his province until high school he moved to Ho Chi Minh City to attend a school for continuing education. Currently, he is attending a three-year program college majoring in Music Teacher Training.

Khuong is a 30-year-old female who has a congenital visual impairment that she does not know the reason for. She was born and grew up in Ho Chi Minh City, the biggest city in Vietnam. Her family has many difficulties because her parents divorced and she lives in a three-generation house with her maternal grandmother, her aunts, and her sister. Her mother has a chronic kidney disease that requires to have dialysis three times per week, thus she can't work now. She attended a boarding school for children with visual impairment during her elementary school and middle school, then she transitioned to an integrated school during her high school where she came back to live with her family. Currently, she is a sophomore at a college in Ho Chi Minh City majoring in psychology.

Trang is a 24-year-old female whose visual impairment was caused by an unexploded bomb. After the Vietnam war, there are several unexploded bombs scattered across the country, and some men in the rural areas of Vietnam still excavate and saw them get the gun powder. She was born and grew up in Ho Chi Minh City but on a trip to visit her grandmother at a village in Vung Tau, she was curious by seeing her uncle-in-law saw an unexploded bomb, thus she watch

it and the bomb exploded killed him and his son. She survived but the gunpowder flew into her eyes. Although her family sought treatment for her in Ho Chi Minh City, the transportation time lasted so long that ophthalmologists could not cure her eyes, thus they removed both. She became completely blind at 6 years old. Her family has a low socioeconomic status. Her father has mental illness and hearing impairment; thus, he cannot work much. Her mother works as a housemaid and is the breadwinner of the family. All her siblings dropped out of school early and she is the first child who goes to college. Her mother tried to send her to the boarding school for children with visual impairment in Ho Chi Minh City to study but the school did not admit her due to its full capacity. Therefore, her mother sent her to live in a shelter for girls with visual impairment in a suburb of Ho Chi Minh City where she lived until she completed high school. After enrolling in college, she moved back to live with her family. Currently, she is a junior at a college in Ho Chi Minh City majoring in sociology.

Trinh is a 27-year-old female whose visual impairment was caused by congenital retinal detachment. She was born and grew up in the suburbs of Hanoi, the capital of Vietnam. Her family has a middle socioeconomic status. Her father is a retired veteran and her mother has a small shop at the market. When she went to study at an elementary school in her village, she was put in the last row of her class and she could not see the board well and her teacher told her to find a school for students with visual impairments. Thus, her parents moved her to a boarding school for students with visual impairments in downtown Hanoi where she studied her elementary and middle school. Then she transitioned to an integrated school to study with sighted students for her high school. Currently, she is studying English translation at a college in Hanoi.

Lan is a 24-year-old female whose visual impairment was caused by retinal degeneration started at 6 years old and she became completely blind at the age of 9 after several surgeries. She was born and grew up in downtown Hanoi, the capital of Vietnam, thus her parents sent her to study at a boarding school for students with visual impairment, but she only attended the semi-boarding program. Her family has a middle socioeconomic status with her parents working for the government. Her parents took her to school and picked her up every day. When she is in college, she has a different schedule than high school and the campus is far from home, thus her parents paid someone to take her to school and pick her up from school. Currently, she is a junior at a college in Hanoi majoring in Business English.

Lam is a 31-year-old male. Until now he doesn't know exactly the cause of his visual impairment. He only knows that he has a congenital visual impairment. He was born in the countryside of Binh Thuan, a province in the Central of Vietnam. His father passed away and his mother farms for a living. His family has a low socioeconomic status. He has six siblings: four sisters, a brother, and he. He is the youngest one in the family and the first child who goes to college among his siblings. Due to poverty and lack of knowledge about education for persons with visual impairment, his family kept him at home. Until he was 12 years old, he was introduced to study at a church in his hometown. He liked studying very much but the church only offered basic education in Braille, thus he asked his mother to contact a boarding school in Ho Chi Minh City for him and he started to study and live there until he completed high school. His family sent him to study at a boarding school for children with visual impairment in Ho Chi Minh to study and he lived there until he finished high school. The boarding school allowed him to study in an integrated school with sighted students during the time he lived there. Currently, he is a senior at a college in Ho Chi Minh City majoring in Special Education.

Nghia is a 23-year-old male whose visual impairment was caused by a high fever that he got from his father when he was three months old. The high fever led to many other diseases and blindness afterward although his parents sought treatment for him several times. He was born in Nghe An, a remote province in the North Central of Vietnam. At the age of 7, his father brought him to a center for children with visual impairment in Ho Chi Minh City where he lives until now. The center helped him to learn Braille first, then it sent him to study together with sighted students at the mainstream education. Currently, he is studying monochord music at a college in Ho Chi Minh City.

Bich is a 27-year-old female whose visual impairment was caused by Vitamin A deficiency and ROP. She was born in a province in a northern province of Vietnam but when she was 4 years old, her family moved to Tay Ninh, a province next to Ho Chi Minh City. Her family has a low socioeconomic status because her parents farm to earn a living in the countryside. She has three siblings: her older sister, she, and her younger brother. Her younger brother dropped out of school due to a lack of finance. Both her sister and she have visual impairments and they were sent to live at a center for children with visual impairment in Ho Chi Minh City where they received support to receive her education. The center helped her to learn Braille then sent her to study together at the mainstream school with other sighted students. She graduated from a college in Ho Chi Minh City majoring in Special Education 2 years ago but could not find a job with her degree. Currently, she is doing handicrafts to earn a living.

Anh is a 24-year-old female whose visual impairment was caused by uveitis. She was born in Thai Binh, a province in the North. Her family has a low socioeconomic status. Her parents are farmers. When she was born, her family did not know that she had a visual impairment. Her preschool teacher detected that she had eye problems and her family sought

treatment, but local doctors could not find the cause. When she turned 6, her family took her to the central eye hospital to get a diagnosis and found that her eyes could not be cured. That year her parents sent her to live in a center for children with visual impairment in Ho Chi Minh City where she received support to attend school. The center offered Braille classes, then sent her to study at an integrated school with sighted students. Currently, she is still living at the center and studying Special Education at a college in Ho Chi Minh City.

Thai is a 25-year-old male whose visual impairment was caused by retinal detachment and cataracts. He was born in Lam Dong, a province in the Highland of Vietnam. When he was young, his vision was not as good as his friend but doctors in his hometown could not find the cause. Until he was 13, doctors diagnosed that he has congenital retinal detachment and he became completely blind at 15 years old despite having several surgeries. His family sent him to live at a center for children with visual impairment in Ho Chi Minh City. Now he is still living there and attending a pre-college program at an international college in Ho Chi Minh City.

Thinh is a 25-year-old male whose visual impairment was caused by a severe traffic accident when he was a senior in college. He lost his vision completely after the accident. He was born and grew up in Dong Nai, a province in the South of Vietnam. His parents have a motorbike repairing shop; thus, his family has a middle socioeconomic status. He went to Ho Chi Minh City to attend a college majoring in Sport and Physical Education. He won several national prizes for athletics and sports. He just graduated from college and is working for the association of people with visual impairment in his hometown. With his athletic records, he continues to participate in domestic and international para games.

Chau is a 25-year-old female. She got a visual impairment because her mother got Basedow and took medication during the pregnancy. When she was four months old, her parents

knew that she had an eye problem and took her to several hospitals, but doctors said that her visual impairment was not able to be cured due to the nerves being damaged. She was born in Cao Bang, a province in the North of Vietnam. Her parents are farmers, and her family has a low socioeconomic status. There was no school that taught students with visual impairment in her home province, thus her parents sent her to study at a boarding school for students with disabilities in Thai Nguyen, a nearby province. She attended boarding school until she completed middle school. Then she moved to Hanoi for high school at a continuing education center. She is the first child in her family who goes to college. Currently, she is a sophomore at a college in Hanoi majoring in social work.

Chien is a 27-year-old male whose visual impairment was caused by febrile convulsions. He was born and grew up in Ho Chi Minh City. His family has a middle socioeconomic status. Her mother is self-employed; thus, she could take him to school and pick him up after school. He graduated from an international college in Ho Chi Minh City majoring in Information Technology System, however, it is difficult for him to find a job with his major because his field of study requires several graphs and paperwork that people with visual impairment have limitations with. Currently, he works as a student aid for students with disabilities at the international college that he graduated from.

Cuong is a 26-year-old male whose visual impairment was caused by an accident when he was young. He was holding a glass of milk while he was standing near the edge of the bed and lost his balance, thus he fell to the ground, the broken glass damaged his eyes and he became blind since then. He was born in Long An, a province next to Ho Chi Minh City. His parents divorced and remarried when he was in grade 11. He has a brother, but his brother married, thus he earned a living himself. He went to live at a boarding school in Ho Chi Minh City for children

with visual impairment where he lived until he completed high school. The school sent him to study at integrated schools for his middle and high school. He just graduated from an international college in Ho Chi Minh City majoring in Professional Communication and minoring in Public Relations.

Thang is a 24-year-old male whose visual impairment was caused by congenital cataracts and retinal degeneration. He was born in Quang Binh, a province in the North Central of Vietnam. His family has a middle socioeconomic status. His father is a pharmacist and his mother is a factory worker. He has four siblings, and all his siblings went to college. Since his vision remains 10%, he was able to study together with sighted students in mainstream education during the elementary and middle school in his home province. Then his vision reduced gradually, and he started to learn Braille, and moved to Hanoi for high school. Currently, he is a senior at a college in Hanoi majoring in social work.

Chi is a 26-year-old female whose visual impairment was caused by congenital cataracts. She was born in Quang Nam, a province in the Central of Vietnam. She has four siblings, but both her sister and she have congenital cataracts while the other two brothers do not have a visual impairment. Both her parents are farmers, and they have a low socioeconomic status. She is the only child in her family who goes to college. At the age of 9, her parents sent her to stay at a boarding school for children with visual impairments until she completed high school. However, during secondary and high school the boarding school sent her out to study together with sighted students in the mainstream education during the day and came back to live there in the evening. Currently, she is a senior at a college in Danang majoring in Elementary Education.

Duy is a 20-year-old male whose visual impairment was caused by glaucoma when he was born. After several surgeries he could keep 10% of his vision, however until he was in grade

8th, he lost all his vision by retinal detachment. He was born in a small town of Bac Ninh, a province in the North of Vietnam. His parents are farmers and they have a low socioeconomic status. He learned to use Braille in his province and completed middle school there. There was no high school that accepted students with visual impairment in his hometown, thus he had to move to Hanoi to study in the continuing education system. Currently, he is a sophomore at a college in Hanoi majoring in Public Communication.

Linh is a 22-year-old female whose visual impairment was caused by congenital glaucoma. She has five female siblings but also has a sister who is visually impaired by congenital glaucoma. She was born in a suburban district of Hanoi. Both her parents are farmers, but their socioeconomic status is in the middle. Her parents sent her to study at a boarding school in Hanoi because her home is about 30 miles from there. She stayed there until she completed middle school and transitioned to an integrated school in high school. Currently, she is a sophomore at an international college in Hanoi majoring in Professional Communication.

Thuy is a 23-year-old female whose visual impairment was caused by tumors in the eyes when she was two months old. She was born and grew up in Danang, the biggest city in Central Vietnam. She has a brother who is also in college. She comes from a middle-class family with parents who are bankers. Her parents sent her to a boarding school in Danang so that she can learn Braille and social skills for a person with visual impairments. After finishing elementary school there, she came back with her family and studied middle school and high school together with sighted students in the mainstream system. Currently, she is a senior at a college in Danang majoring in International Relations.

Huong is a 22-year-old female whose visual impairment was caused by congenital inflammatory maculopathies and she lost her vision by the time she completed middle school,

she transitioned to study in a special school for children with visual impairments. She was born and grew up in Hanoi. She has three female siblings and she is the first child who goes to college. Her family has a low socioeconomic status. Her father is a freelancer, and her mother sells goods at a market. She just graduated from a college in Hanoi majoring in social work. Currently, she is doing an internship at a non-profit organization that advocates for the rights of people with visual impairment.

Hien is a 20-year-old female whose visual impairment was caused by congenital retinitis pigmentosa degeneration. She has a brother who also has the same eye disease. She was born and grew up in Khanh Hoa, a province in the Central of Vietnam. Her father is a farmer and her mother is a factory worker. They have a low socioeconomic status. She has three siblings, but she is the first child in her family who goes to college. During her elementary, middle, and high school, she studied together with sighted students using magnetic glasses. Her vision declined dramatically, and she could not read printed books after she completed high school. Thus, she applied to live in a center for youth with visual impairment to learn Braille in Ho Chi Minh City before she applied to college. Currently, she is a sophomore at a college in Ho Chi Minh City majoring in English Linguistics.

Hue is a 27-year-old female whose visual impairment was caused by congenital retinitis pigmentosa degeneration and then cataract. She was born and grew up in Ho Chi Minh City. Her mother passed away a year ago and her father is retired. Her family has a middle socioeconomic status. She lost most of her vision after grade 9th, thus her parents let her stay home for three years until they found a school for people with visual impairment and sent her there to repeat grade 9th with Braille. Then she went to an integrated high school to study together with sighted students. Currently, she is a senior at a college in Ho Chi Minh City majoring in psychology.

Hung is a 24-year-old male with visual impairment whose visual impairment was caused by vitamin A deficiency. He was born in Cao Bang, a province in the North of Vietnam. When he was five years old, due to a lack of knowledge about eye diseases, his family took him to see a village healer where he was given something to put into his eyes and the herbs damaged his retinas. His family has a low socioeconomic status because his father was the breadwinner, but he died in 2010. His mother is a farmer. His two brothers dropped out of college to work to help the family. He had to stay home until he was 9 years old to start primary school with Braille. Then he was transferred to an integrated school to study together with sighted friends in the elementary and middle school in his home province. He went to Hanoi to study high school because there was no high school that accepted students with visual impairment in his province. Currently, he is a sophomore at a college in Hanoi majoring in social work.

Minh is a 23-year-old male whose visual impairment was caused by a bomb explosion when he burned the mine detonator that his father hid on top of the closet to make fireworks at age 9. He was born in Cao Bang, a province in the North of Vietnam. His father passed away due to cancer in 2011. His mother is a farmer and his family has a low socioeconomic status. Due to financial shortage, his family delayed the treatment for him until his eyes developed scars and could not be cured. After he lost his vision, he stayed at home for 4 years. After that, he learned Braille and studied in an integrated school in his hometown until he finished grade 6th. Then he transferred to a boarding school in the next province to study with youths with different types of disabilities. That boarding school did not offer high school, thus he moved to Hanoi for high school. Currently, he is a sophomore at a college in Hanoi majoring in psychology.

Quan is a 20-year-old male whose visual impairment was caused by ROP. Then at five years old, he lost vision of the other eye due to a crash accident. He was born and grew up in

Hanoi, the capital of Vietnam. His family's socioeconomic status was in the middle. His family sent him to study at a boarding school for students with visual impairment until he completed middle school. Then he came back home and studied at an integrated school during his high school. Currently, he is a sophomore at a college in Hanoi majoring in English Linguistics.

APPENDIX L: A SYNOPSIS OF EACH FACULTY PARTICIPANT

Huynh is a male, 47 years old. He is a social work lecturer at a university in Ho Chi Minh City. He has been working in an academic setting for 8 years, and his highest degree is a master's.

Danh is a male, 37 years old. He is a social work lecturer at a university in the Central region of Vietnam. He has been working in an academic setting for 12 years, and his highest degree is a master's.

Tin is a male, 56 years old. He is a social work lecturer and Associate Dean of a university in the Central region of Vietnam. He has been working in an academic setting for 33 years, and his highest degree is a master's.

Xuan is a female, 58 years old. She is a social work lecturer and former Dean of a university in Ho Chi Minh City. She has been working in an academic setting for 32 years, and her highest degree is Ph.D.

Vu is a male, 67 years old. He is a social work lecturer and former Dean of a university in Ho Chi Minh City. He has been working in an academic setting for 40 years, and his highest degree is Ph.D.

Kim is a female, 43 years old. She is an Associate Dean for Student Affairs of a university in Ho Chi Minh City. She has been working in an academic setting for 20 years, and her highest degree is a master's.

Bao is a male, 42 years old. He is a social work lecturer and Associate Dean of a university in Hanoi. He has been working in an academic setting for 17 years, and his highest degree is Ph.D.

Mai is a female, 46 years old. She is a Special Education lecturer and Associate Dean of a university in Ho Chi Minh City. She has been working in an academic setting for 22 years, and her highest degree is a master's.

My is a female, 46 years old. She is a social worker at a university in Hanoi. She has been working in an academic setting for 6 years, and her highest degree is a master's.

Tam is a male, 32 years old. He is a social work lecturer at a university in Hanoi. He has been working in an academic setting for 10 years, and his highest degree is a master's.