

Worldwide Research on Vocational Training of the Blind and Partially Sighted

An Interactive Qualifying Project Report submitted to the Institute for the Blind and partially Sighted (IBS) in Copenhagen, Denmark and the Faculty of Worcester Polytechnic Institute (WPI) in Worcester, Massachusetts in partial fulfilment of the requirements for the Degree of Bachelor of Science.

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ACKNOWLEDGEMENTS

Many thanks to our sponsor, the Institute for the Blind and partially Sighted (IBS) in Copenhagen, Denmark. Without its support this project would not exist. Special thanks to Annelise Mosen, Neils Olesen, Janne Hansen, and Morten Schmidt. Additionally, thanks to Professor Kent Ljungquist for his helpful guidance and for making the IQP a rewarding experience. Our project group would also like to thank Professor Peder Pedersen and Mr. Tom Thomsen for all of their hard work in giving us this opportunity.

ABSTRACT

Information on vocational training programs for the visually impaired in other countries is necessary in proposing new vocational programs to our sponsor, the Institute for the Blind and partially Sighted (IBS) in Copenhagen, Denmark. Through gathering this data from both the United States and abroad, we were able to organize, analyze, and evaluate different vocational training curricula and educational philosophies. In further investigating these programs, various cultural implications were also uncovered. This data was collected through Internet research and interviews. In Denmark, these methods, along with a focus group, and natural observation, aided in completing the project. Effective vocational training programs were subsequently examined and are intended to have a positive influence on the high unemployment rate among the visually impaired.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	ii
ABSTRACT	iii
TABLE OF CONTENTS	iv
1.0 INTRODUCTION	6
2.0 LITERATURE REVIEW	9
2.1 Vocational Implications.....	10
2.1.1 Cultural and Social Prejudices.....	11
2.1.2 Career Education	15
2.2 Prevocational Training	16
2.2.1 Services and Outreach Programs.....	17
2.2.2 Providing Basic Skills Programs	19
2.2.3 College Educational Programs	22
2.3 Vocational Training.....	24
2.3.1 Computer Training and Technology.....	25
2.3.2 Trade Based Opportunities	31
2.3.3 Government Involvement	36
2.4 Chapter Summary	44
3.0 METHODOLOGY	45
3.1 Researching Supporting Literature	45
3.2 The Importance of Interviewing	46
3.3 Focus Groups	49
3.4 Natural Observation.....	51
3.5 Future Program Suggestions.....	52
4.0 RESULTS AND ANALYSIS	54
4.1 Careers for the Blind or Visually Impaired	55
4.2 The IBS Plan.....	58
4.3 Relevant Programs and Analysis.....	62
4.3.1 Perkins School for the Blind.....	62
4.3.2 Lighthouse International of New York.....	65
4.3.3 Lions World Services for the Blind	67
4.3.4 Braille Without Borders.....	70
4.3.5 Skills Development Center for the Blind	71
4.3.6 Oregon School for the Blind.....	73
4.3.7 Chapter Summary	75
5.0 CONCLUSIONS AND RECOMMENDATIONS.....	76
5.1 Overview of Findings	76
5.2 Recommended Vocational Program Additions to IBS.....	77
5.3 Chapter Summary	80
6.0 APPENDICES SECTION	81
Appendix A: Blindness and its Impacts	81
Appendix B: Effects of Blindness	86

Appendix C: Talking Chip Technology IQP Project (2002).....	89
Appendix D: Interview with Bill Scully.....	91
Appendix E: Interview with Sandra Boris-Berkowitz.....	94
Appendix F: Acronyms	97
Appendix G: The Name Lighthouse.....	98
Appendix H: Criteria for recommending programs to IBS	99
Appendix I: List of Organizations Researched.....	100
Appendix J: Interview with Niels Olesen.....	101
Appendix K: Focus Group.....	103
WORKS CITED	105

1.0 INTRODUCTION

Blindness does not discriminate; it affects people worldwide, each in different ways. The legal definition of blindness is visual acuteness of not greater than 20/200 in the better eye after visual correction or a visual field angle no greater than twenty degrees (Hardy 5). There are both physical and psychosocial factors that play a role in the life of the blind. Because of these factors, various organizations and programs around the world educate and train the visually impaired to become independent both socially and economically.

In 2002, it was estimated that between 20,000 and 25,000 people in Denmark were suffering from blindness or visual impairment (Danish Association of the Blind 2004). Furthermore, in the United States there are an estimated one million blind people nationwide (Williams 2004). The Institute for the Blind and Partially Sighted (IBS) in Copenhagen, Denmark aids blind and partially sighted individuals through rehabilitation and vocational training programs. This organization has become crucial to the blind and visually impaired community it serves. The goal of this organization is to assist blind and partially sighted people in providing the greatest possible compensation for the effects of visual impairment through instruction, guidance, and training (IBS: Institute for the Blind and partially Sighted 2004).

To improve the lives of the visually impaired, IBS was in need of the collection, organization, and evaluation of worldwide data regarding the vocational training of the blind. This data collection serves to inform, educate, and possibly provide IBS with insight into new vocational programs. However, this task proved problematic as that IBS lacked a precise and orderly manner in which to collect and evaluate the data for this plan.

Through researching various organizations for the visually impaired from around the world, the different vocational training programs offered, and the distinct educational philosophies used, have been recognized, categorized, and analyzed. The specific research that is provided in this project report extends into the different worldwide organizations, the distinct kinds of employment they offer, and the various pedagogical methods they use in the education and training of the blind and partially sighted. Cultural implications are also investigated to give insight into the reasons that certain vocational programs are offered at specific organizations and institutions, especially in countries abroad.

Researching the distinct cultures from different regions of the world has also helped to uncover some of the common stereotypes or misconceptions regarding the visually impaired in the workforce. This research has served to illuminate some of the many hurdles that must be surmounted in order for education and training programs to become successful. Most of the data was researched via the Internet. This research coupled with additional interviews with personnel from blind organizations and institutes, such as the Massachusetts Commission for the Blind and the Perkins School for the Blind, has provided the information needed to begin to educate others in these areas. In Denmark and at IBS, various counselors, teachers, and students were interviewed as well. In order to successfully meet the ultimate goal for this project of providing practical information and proposing new applicable programs for IBS, continued research, utilization of focus groups, and natural observation were all necessary.

After the collection of this information, IBS will be supplied with the many occupational training opportunities that are available from around the globe to the visually impaired. With this knowledge and information regarding teaching philosophies and cultural implications, important and helpful suggestions for new vocational programs for the blind community can be made available to

IBS. The following report will ultimately help IBS explore and gain knowledge of the various programs that are offered worldwide and will assist the blind in finding more vocational training prospects and broader employment opportunities.

2.0 LITERATURE REVIEW

Blindness knows no boundaries: it affects people around the globe of every race, background, social class, and intelligence level. Living as a blind or visually impaired person presents problems and difficulties not relevant to normally sighted individuals. Not only are these difficulties physical in nature, but the sociological and psychological impacts of blindness can also have an overwhelming effect on one's self-esteem (Please refer to Appendices A and B which provide an overview of these effects and implications of blindness). For this reason, it is at times difficult for the blind or visually impaired to obtain jobs, resulting in a seventy percent unemployment rate among the blind and partially sighted in the United States (Williams 2004).

Even if considered legally blind, it is important to understand that each person can have varying degrees of both visual and mental ability. Almost more importantly, is to understand that there is no correlation whatsoever between visual acuity and mental ability. Some blind people can see rather well but only through a very small field of vision, about the size of a pinhole. Others can sense light changes and read printed words if they are magnified properly. It is therefore crucial not to think of blind or partially sighted individuals as confined to a single group, but to understand that like anyone, their abilities both mentally and visually fluctuate from person to person (Scully 2004). Unfortunately, for many people, these negative effects of visual impairment can affect a person's professional goals and therefore economic independence.

In society and in life, personal satisfaction is often reached through one's profession or job. Reinforcing vocational training programs and other services available to the blind and partially sighted community not only provides this opportunity, but it also instills pride. Research on the various vocational implications of blindness and different available worldwide vocational training

programs is the main focus. In the following section, specific emphasis will be placed on the different types of vocational training programs and services offered to the blind and visually impaired. It will also explore the unique approaches used within these programs available both in the United States and abroad as well as the way different cultures view blindness.

2.1 Vocational Implications

Most blind or partially sighted adults today have not been fully integrated into the work force. If visually disabled and employed, their jobs are often menial and repetitive. As a result, many visually disabled persons are underpaid or underemployed (Tuttle 33). Average annual earnings of individuals with visual impairments are about 31% lower than those earned by persons without any disabilities (McNeil 2001). According to Dean Tuttle, there are several reasons that the blind can be discriminated against by employers and inhibited from normal advancement. First is a general lack of readiness on the part of the blind person to use the tools and techniques devised to overcome some of the effects of blindness, second there is often a lack of creativeness and imagination on the part of some rehabilitation workers who all too often enlist blind vocational workers in stereotypical jobs, and thirdly there is a lack of sufficient occupational research to devise improved methods of performing more jobs without sight (Tuttle 33). A fourth barrier in the workforce is found in the prejudices held by many employers toward visually impaired employees. Different social and cultural beliefs found in many regions of the world also play a supporting role in these prejudices and perceptions of blindness.

Such attitudes and implications imposed on the blind and partially sighted may inhibit a smooth transition into the workplace.

2.1.1 Cultural and Social Prejudices

Many prejudices are often reinforced by cultural and social stereotypes attached to blindness and visual impairment in different countries around the globe. In various regions of the world, the society in which one lives imposes predetermined stereotypes or views on a person with a physical disability, without consideration of their capabilities and strengths. These views or actions often restrict the physically impaired person's will as well as their possibilities for a rewarding and meaningful pursuit of success. The motives behind some of these prejudices and stereotypes can be religious in nature, because of different social classes, or due to the misconceptions and pure ignorance of some individuals and communities. Some of the most prominent examples of social and cultural prejudices, based on geographical regions, are provided in the following section. The examples discussed include societies in Africa, Tibet, Thailand, and Australia. A society's religion, geography, social class, and lifestyle are all active variables in the discrimination and prejudices held against blind and partially sighted individuals.

Africa for example, as one of the most affected areas globally as far as blindness is concerned, is home to over 14 million blind and visually impaired persons (World Health Organization Website 2004). The main causes of blindness, especially at a young age, in Africa include: measles, vitamin C deficiencies, harmful effects from traditional medicines, and blindness causing diseases such as Onchocerciasis or River Blindness (World Health Organization 2004). River Blindness threatens 115 million people in Africa and is transmitted by the Black Simulium Fly, which breeds around rivers

in South Africa. When bitten, a person is infected with a parasite that then causes River Blindness through excruciating itchiness throughout the skin and into the eyes, resulting in blindness (Sight Savers Website #2 2004).

Even with such a large blind and visually impaired population, many African societies shun their blind as too much of a burden and even leave them to perish or else survive on minimal help (BBC News UK Edition 2004). In the past, Sierra Leon, Africa suffered a civil war that took a major toll on the blind population. In line with the common stereotypes and misconceptions found around the world, in some parts of Africa blind people are not considered capable of earning an income and are also thought of as non-contributors to their family, community, homes, or society (BBC News UK Edition 2004). Although there has been progress in Africa during the past decade, the blind still experience various forms of adversity, including marginalism, gender inequality, severe poverty, unemployment, underemployment, and inadequate and inappropriate education (Sight Savers Website 2004).

Similar to some of the prejudices held in some countries Africa, Thailand's society also views its blind and partially sighted citizens as burdens to one's family. In particular, Thai society feels that blind women are a burden on their family and need some type of training to make amends for their disability (Light for the Blind 2004). In Thailand, the predominant training allowed for women is basic housewife training. If a blind woman is fortunate enough to be married in Thailand, she must become an immaculate housewife in order to make amends for the burden she places on her husband (Light for the Blind 2004). However, if a blind woman is not married, she must compensate for the burden she has placed on her family by being a type of servant to the family, utilizing the skills in housekeeping and sewing (Light for the Blind 2004).

Discrimination against blind women is one implication among many for the blind in Thailand. When Thailand is thriving economically, the blind easily find employment. However, when the economy starts to weaken, the blind are the first to lose their jobs, leading to high unemployment rates for the visually impaired (Light for the Blind 2004). This outcome clearly demonstrates some of the prejudices that the blind face every day in Thailand. To overcome this inequality, when the economy is strong, the blind and partially sighted work in the community. However, when the economy starts to decline, the blind are forced to make self-employment opportunities for themselves (Light for the Blind 2004).

In Tibet, a rich and beautiful land located at the main part of the Qinghai-Tibet plateau in the southwest frontier of China, religion plays an important role in the treatment of the blind and the handicapped. If a person is blind or handicapped, the impairment is often perceived as a punishment for bad behaviour in a previous life according to ancient religious beliefs (Ms-Nepal 2004). Because of this, some blind children have been tied to their bed to inhibit them from hurting themselves, not because the parents were evil, but because the parents didn't know what to do with the blind child. For reasons of religion, overprotection, or family embarrassment, some children are locked away in dark rooms for a great part of their lives. These children commonly live in rural isolation because of this demeaning stigma (International Herald Tribune 2004).

According to official statistics more than 10 thousand of the 2.5 million inhabitants of the Tibet Autonomous Region are blind. Compared to most areas in the world this is well above the average ratio (CNN 2004). The causes of visual impairment or blindness in Tibet are both climatic and hygienic. Dust, wind, high ultraviolet light radiation, soot in houses caused by heating with coal or yak dung, and the lack of vitamin A at an early age are all influential factors. The burning of yak dung instead of firewood creates much more unburned ash or soot than normal and can settle on a person's

cornea (International Herald Tribune 2004). When this soot enters the eyes either uncontrollably or through wiping them with unclean hands, the cornea can become infected, and this condition often results in serious eye problems and blindness. Inadequate medical care has also played a substantial role in blindness statistics.

As in previously mentioned countries, Australia too entertains a number of similar stereotypes and prejudices against blind and partially sighted individuals. As a very young country, Australia has a culture of a “fair go for everyone” (Peter Ryan 2004). This statement, however, often excludes those with disabilities. In some ways the Australian culture has followed the American culture and is faced with an intolerant, injudicious, and discriminatory society.

People perceive visually impaired persons in varying ways. In Australian culture, unfortunately, many people think that because visually impaired individuals do not have an obvious or clearly noticeable disability, blind and partially sighted people are fakes, liars, or useless members of society. This misconception is due to blatant ignorance. BVIP NET (Blind and Vision Impairment Person’s Network) of Queensland, Australia aims to encourage the society to treat blind and partially sighted people as normal influential members of society and encourages community awareness and acceptance of visually impaired people (Peter Ryan 2004).

Another stereotype common in many regions according to Peter Ryan, president of BVIP NET, is held against blind teachers and instructors. Due to common ignorance, many sighted individuals believe that a visual handicap is automatically connected with brain damage (BVIP NET 2004). This stereotype hinders the blind from participating in many higher level occupations, especially teaching positions.

Prejudices and stereotypes such as these have a destructive affect on the current opportunities for the blind. Though vocational training is crucial, support from one’s society can also

improve the unfortunately high unemployment rate. In order to put a stop to these cruel and disparaging prejudices and stereotypes against visually impaired people, more community awareness or acknowledgment and improved career education opportunities are first necessary.

2.1.2 Career Education

Much of the prejudice held by the different cultures and societies mentioned above stem from the fact that many people automatically assume that blind and partially sighted individuals are not prepared or capable of making a positive impact or contribution to society. These prejudices notwithstanding, the process of career education for the blind and partially sighted is very similar to the process for those without visual impairments. However, career preparation for a blind person requires more careful and systematic planning, researching, and use of activities provided by a teacher or vocational trainer, school counsellor, and a vocational rehabilitation counsellor (Tuttle 34). This process of career education attempts to assess visually impaired students' interests, abilities, and potential. Richard Hardy, a career planning specialist for the blind noted that "career planning requires a thorough analysis and understanding of one's self, including strengths, weaknesses, abilities, interests, and aptitudes. Plans must be made in advance, consultation should be had with others [employers], and education and training are of prime importance" (Hardy 290).

On the other hand, those who become blind later in life go through a period of adjustment and accommodation with the limitations (Please see Appendix A for more information on some of the implications of visual impairment) and therefore experience a disruption in employment. As the abilities of a blind or partially sighted person increase, a greater variety of jobs become available and the job placement trend is moved toward fitting the job to the blind person, their interests, and their

abilities, rather than fitting the blind person to the available jobs. The more a person is interested in and suited for his or her employment, the more job satisfaction he or she receives. Several indicators of whether or not a blind person will be able to work include their intelligence level, travel ability, amount of education, and not having other disabilities (Tuttle 170).

Vocational placement is underrated by many rehabilitation counsellors and by many others who do not entirely understand its benefits. Therefore, there is a need for a counsellor to study the needs of his or her client and the types of satisfaction important to him or her (Tuttle 315). This inevitably raises self-esteem. Vocational opportunities need to be both interesting and constructive to a visually disabled person in order for them to achieve some kind of self-worth and a sense of accomplishment. The famed psychologist, Abraham H. Maslow, stated in 1954 that an individual's needs fall into the following hierarchy: physiological satisfaction, safety, belongingness and love, importance, respect, self-esteem, independence, information, understanding, and self-actualization (Hardy 316). In our society there is no better situation that is potentially more capable of providing fulfilment to all of the above categories, than a person's occupation.

2.2 Prevocational Training

Before entering the work force, proficient training must prepare an individual for the desired career or trade. Based on the limitations visual impairment places on an individual, there are various types of training in life skills and pre-vocational programs that the blind and partially sighted can engage in before they start training toward a vocational goal. The sections below describe a

selection of the various programs and services that are available to the blind and partially sighted community.

2.2.1 Services and Outreach Programs

There are various organizations and institutes that offer an array of services and outreach programs to the blind. The services span a wide genre of topics from everyday tasks to assistance with more complex issues and activities. Outreach programs relate to these services in that the services are brought out into communities and to the blind population. There are several organizations and schools that play key roles in the lives of the blind through providing these service and outreach programs.

Perkins School for the Blind is one example. When founded in 1832, it was the first school for the blind in the United States with Helen Keller as a future student (Perkins School for the Blind 2004). Since its inception, the Perkins School for the Blind in Watertown, Massachusetts has strived to serve the blind community. Perkins offers a variety of outreach programs assisting various diverse groups of people. One example is the community living outreach program. Some other programs include the Infant and Toddler Program, preschool services, outreach for visually impaired students in public schools, vision rehabilitation clinics, outreach to to the elderly, and professional outreach (Perkins School for the Blind 2004). Perkins is involved in many different countries and areas. Perkins strives to use these outreach programs around the world. Some of these areas include Africa, Asia, the Caribbean, Eastern Europe, Latin America and Russia (Perkins School for the Blind 2004).

Perkins offers a prevocational outreach service as well. There are various steps in this process. The students come to Perkins for a weekend in the spring for vocational testing. Through this testing, the various interests and strengths of a particular individual can be discovered. This leads to

the vocational training session in the summer. Based on these evaluations, Perkins runs a five-week vocational training program in July of each year (Sandra Boris-Berkowitz).

The National Industries for the Blind (NIB), also in the United States, is another organization that does work similar to that of the Perkins Institute. The primary mission of NIB is to facilitate the economic and personal independence of blind persons through creating, sustaining, and improving employment (National Industries for the Blind 2004). NIB and its associated agencies provide people who are blind with many rehabilitative services. Some of these services include early childhood intervention, and adult literacy. NIB also offers services such as low vision examinations and aids, Braille literacy evaluations, and occupational/physical therapy (National Industries for the Blind 2004). Personal and career counseling as well as employment training are also emphasized by the National Industries for the Blind.

The Blind Industries and Services of Maryland offers innovative rehabilitation services, training, and establishes employment opportunities to Maryland citizens who are blind or visually impaired. Most of the instructors at this organization are blind and serve as mentors and counselors to the students. Blind Industries also provides a range of employment development services that focus on personal career goals. They educate blind and partially sighted individuals in appropriate work behaviors, resume building skills, job search techniques, networking benefits, and interviewing strategies (Blind Industries and Services of Maryland 2004). Blind Industries and Services of Maryland also evaluate its clients to better place them in appropriate jobs.

A number of institutes and organizations offer specialized services. Lighthouse International of New York offers a Direct Placement Program. (Please see Appendix G for a briefing on the meaning of "Lighthouse" in many organizations' names.) Employment specialists work with clients on goal setting and resume development, which allows the specialist to place the client in a

position that matches their skills and abilities. These placement services are available in the five boroughs of New York City, on Long Island, and in seven counties of the Lower Hudson Valley (Lighthouse International of New York 2004). Lighthouse International has a job retention service as well. This service is offered to experienced workers, whose ability to complete all necessary job functions are affected by vision loss. An employment specialist works with the individual on self-advocacy, if necessary, and works with the employee and the employer to analyze job tasks (Lighthouse International of New York 2004). Recommendations and implementations of job modifications are the result of this program.

The Massachusetts Commission for the Blind works with the blind community through the help of optometrists. As part of a statewide outreach program, optometrists are required to provide the Commission for the Blind with a list of legally blind and visually handicapped individuals from the community. The commission then contacts these individuals and discusses the rehabilitation and vocational training services available to them through the agency. The Massachusetts Commission for the Blind also provides clerical support and drivers to visit the homes of blind and partially sighted individuals to meet with them. The commission also employs a number of blind counselors that serve as role models to clients (Bill Scully). (Please see an account of a personal interview, held with vocational counselor, Bill Scully, at the Massachusetts Commission for the Blind, provided in Appendix D).

2.2.2 Providing Basic Skills Programs

Although there are many services and outreach programs to attain a so-called “normally functioning life,” it is first necessary for blind and partially sighted persons to gain basic living skills.

In the sighted world, blind individuals can encounter problems ranging from general housework and mobility to written communication. Many programs have been implemented to help the blind overcome these various problems that arise in everyday living.

The Massachusetts Commission for the Blind (MCB), for example, works in conjunction with The Carroll Center in Newton, Massachusetts. The Carroll Center serves to provide the necessary rehabilitative programs before proper vocational training can begin. These programs are also geared toward those that are losing their vision and are in the process of adjusting to blindness. The Carroll Center trains its clients on how to use a walking cane, eat better, manage their clothing, and much more. These adjustment courses are twelve weeks long and cost an average of \$1,300 (Bill Scully). The courses mentioned above are necessary to obtain independence in life skills such as mobility, household chores, personal care, and personal management. Once the above skill areas are mastered, the Commission for the Blind steps in to further prepare a blind or partially sighted individual for economic independence (Bill Scully). MCB works in partnership with legally blind individuals to reach their goals of independence and participation in their communities.

2.2.2.1 Mobility

In everyday life, mobility restrictions are the single most inhibiting issue facing visually impaired persons (Bill Scully). Though most visually impaired people are physically capable of movement, their loss of sight makes mobility a difficult task. For this reason, many organizations and institutes for the blind offer basic mobility programs to provide easy navigation through everyday tasks.

One such program provided through the Living Skills Center of the Visually Impaired of California (LSC), prepares and subsequently allows clients access into the competitive job market

(Living Skills Center of the Visually Impaired of California 2004). LSC's primary mission is to facilitate the independence of blind and partially sighted persons. Living skills include cooking, care of clothing, and general home cleaning. LSC's mobility and orientation program emphasizes the practical use of skills and includes training in human guide technique, walking cane technique, address-finding skills, intersection analysis, route planning, paratransit, local buses, Amtrak, and air travel when appropriate. Paratransit is a specialized transportation service for persons who are unable to independently use regular buses or streetcars due to a disability or health related condition some or all of the time. Paratransit is provided by public transportation systems as part of the requirements of the Americans with Disabilities Act (LSC 2004).

While this mobility program is taught in a classroom setting, the Natal Society for the Blind (NS) in Africa has mobility instructors who work one-on-one with the student client to build confidence in navigation and independent living (Natal Society for the Blind 2004).

Columbia Lighthouse for the Blind (CLB), located in Washington, DC, also offers programs to enable blind and visually impaired people to obtain independence at home, school, work, and in the community. CLB offers rehabilitation services to help the blind and visually impaired reassert control and independence in their life. Rehabilitation and mobility instructors, through hands-on practice, prepare an individual in successfully facing daily challenges including managing household chores, travelling in the community and managing personal finances (Columbia Lighthouse for the Blind 2004).

2.2.2.2 Literacy

Before the early nineteenth century, mobility was not the only dilemma that the visually impaired had to overcome. Until the invention of Braille in 1837, the blind never had the opportunity

to read written material. However, even with new innovations, some have never had the resources to be taught how to use the Braille system. Consequently, many vocational programs and institutions offer courses in adult literacy and the Braille system.

Both the Royal Victorian Institute for the Blind (RVIB) in Australia and the Natal Society for the Blind (NS) in KwaZulu-Natal, Africa offer accredited literacy programs that help their students to enhance their reading and writing skills. Through the use of both uncontracted and contracted Braille courses, the blind have a means of reading or writing works of literature, textbooks, and even newspapers.

The Living Skills Center for the Visually Impaired of California also offers Braille literacy courses, yet they stress its use for the art of labeling (LSC 2004). Through the use of Braille, the blind can label anything from telephone numbers, to playing cards, to food items to assist them in independent living. This introduction to reading and writing can help the blind enjoy leisurely time, stay up to date with current news, or communicate with family and friends. It also provides a way to further their education. Additionally, Braille is required in the use of some assistive aid devices that allow the blind access to computers and written information. These devices and their impact will be discussed further in section 2.4.1.

2.2.3 College Educational Programs

Upon learning basic skills, the blind can begin to get more involved with the community through work, or they can choose to further their education by going to college or by taking college courses. Some blind students may be integrated back into governmental school systems while others

can take advantage of college courses that are offered at various institutions for the blind and partially sighted.

The Living Skills Center of the Visually Impaired of California (LSC) has many programs to allow for further education. Its pre-vocational training focuses on whether a student is interested in taking college courses, or chooses to look for part-time work. Though there are no college courses taught on site, students interested in a college education are informed on how to apply to college, hire readers, gain access to books, what to expect from their rehabilitation counsellor, and given insight into campus mobility (LSC 2004). This is done through a unique curriculum especially designed to make it possible for people who are visually impaired to succeed in college. Students interested in part to full time work concentrate on job exploration skills, job applications, resume writing, and interviewing skills (LSC 2004).

The Lions World Services for the Blind (LWSB) also provides a course to prepare students who plan to attend college. Its college preparatory course provides information and instruction in three main areas: adaptive skills, academic skills, and socialization skills. The staff at LWSB strives to give students a well-adjusted attitude towards college life to make the college experience “self-directed and productive” (LWSB 2004).

On the other hand, The Royal Victorian Institute for the Blind (RVIB) offers a program to help students open a pathway to future employment through college courses that are taught on site. Through these courses, students can develop higher skill levels and professionalism, which presents greater employment opportunities. With the growing availability and abundance of assistive technology, RVIB provides courses on the use of Microsoft PowerPoint, Microsoft Excel, and Microsoft Word (Royal Victorian Institute for the Blind 2004). Using these programs, the blind can

generate state of the art presentations, build spreadsheets, or produce formatted documents. These programs thus directly aid in taking college level courses.

Further education offered at various organizations for the blind can make a vast difference in the employment opportunities obtainable to the blind and partially sighted. With the additional training, they can excel in their chosen vocational training program or can enter the working world with more confidence and qualifications. Organizations and institutes providing such pre-vocational services and programs are greatly aiding the blind in achieving independence both socially and economically.

Prevocational training of the blind and partially sighted is necessary in preparation for vocational training. Effective and productive prevocational training will prepare a person for their career, job, or additional vocational training. The following sections describe unique vocational programs offered to the blind community.

2.3 Vocational Training

Personal success and satisfaction are often achieved through one's profession, vocation, or job. Although the blind lack vision, they do not lack desire and individual goals. Making vocational training programs available for the blind and partially sighted has aided in the gaining of independence and self-confidence of many people in the visually impaired community. The section below describes various vocational programs that are available to blind and partially sighted individuals.

2.3.1 Computer Training and Technology

In the year 2002, the Danish Association of the Blind (DAB), also known as the Dansk Blindesamfund, sponsored “The Talking Chip Technology Project.” (Please refer to Appendix C which contains more information on this topic.) The DAB is almost entirely run and operated by people who are blind or visually impaired, and has branches throughout Denmark. The Danish Association of the Blind offers support for its members in many forms; one of the most influential has been the acknowledgment DAB has made of the benefits of technology.

As an organization, DAB seeks to make “talking” aids readily available to the blind community in Denmark (Danish Association of the Blind 2004). Products such as talking aids assist the blind in carrying out everyday life duties and responsibilities. For example, talking aids can help blind individuals read computer screens. This allows the blind or partially sighted individual to gain both confidence and independence. Not only do they seek to make talking aids, they support the effort by sponsoring new technology programs and research projects such as the “Talking Chip Technology IQP Project” of 2002.

Modern adaptive technology has allowed blind and partially sighted people to break free from the stereotypical jobs to which they were once confined. A majority of the vocational training institutions and organizations for the visually impaired employ some type of assistive technology training in their occupational instruction programs. The shift in society from a blue-collar working-class nation to a computer-oriented nation has inevitably, along with modern adaptive technology, opened up all kinds of job opportunities especially in the service and leisure industries.

Organizations that employ assistive technology training as a fundamental element in vocational training understand that businesses are becoming increasingly more computerized and thus

realize that computer skills are an important asset to any profession, not to mention useful for personal assistance. This can be attributed to the fact that much of the assistive technology existing for visually impaired people today is run through computers and at the same time makes computers accessible to the blind and partially sighted. These vocational training programs maintain the philosophy that technology is crucial in leveling the playing field for the blind when it comes to employment, access to information, and communication. For example, Seattle Lighthouse, based out of Seattle, Washington, employs over 140 individuals in their manufacturing corporation (Seattle Lighthouse 2004). These individuals have a range of different visual abilities and some are deaf and blind. Dana Marmion, a customer service associate, uses screen magnification assistive technology while another service associate uses Braille, speech, and screen magnification to assist her in daily job activities (Seattle Lighthouse 2004). On the other hand, Ken Sting is a deaf-blind machinist who reads his work orders for Boeing airplane parts in computer generated Braille. His co-worker, Jim Smith, uses speech to operate his computer numerically controlled manufacturing equipment. Assistive technology therefore serves to fit the vocational needs of any individual (Seattle Lighthouse 2004).

Before going into the specific programs and organizations behind them, one must understand the realm of currently available assistive technology and what they provide for the blind and partially sighted. Visually impaired employees, as mentioned in the above paragraph, use three basic types of adaptive technology depending on the degree of vision loss: screen magnification, speech, and Braille displays (Seattle Lighthouse 2004).

2.3.1.1 Assistive Technology Devices

Screen magnification or text enlargement hardware and software aids in enlarging words and images on the screen to up to thirty times their original size. This allows partially sighted

individuals to read computer screens, written text, and interpret graphics. People with fairly high degrees of residual vision usually use this type of technological aid (Lighthouse International of New York 2004).

One common magnification hardware device is the Closed Circuit Television or CCTV. Most CCTVs are stationary television magnifiers that consist of a camera and normal sized monitor screen. Material placed under the camera is magnified and displayed on the CCTV monitor. Print size, brightness, and contrast can be adjusted to meet individual needs (Lighthouse International of New York 2004). Portable versions of CCTVs are also available and can be used in conjunction with a computer. One version combines elements of a scanning system with elements of a CCTV to produce a device that is capable of scrolling text continuously across the screen after the text is scanned into the system. Software programs such as ZoomText allow the partially sighted to be able to enlarge text and graphic information on any Windows screen up to sixteen times its normal size (Miami Lighthouse 2004).

Synthetic speech can be produced by either a specialized optical character recognition device or through the use of a computer's built in sound system with the addition of specific software, sometimes referred to as screen reader software (Lighthouse International of New York 2004). With the use of synthetic speech, people who have little or no vision can access many mainstream computer applications and read books and other printed material without the assistance of a sighted reader. Computers equipped with synthetic speech and screen reading software allow people who are visually impaired to perform word processing, use spreadsheets, work with databases, surf the Web, and perform most computer operations. JAWS is today's most effective screen reading software and is designed to speak any Windows screen, document, or menu through any speech synthesizer (Miami

Lighthouse 2004). A screen reader software program can be used in conjunction with Braille display or used independently to allow further access to a computer and the Internet.

Braille devices offer access to computers for people who are fluent in Braille. These adaptive aids allow the input of information, display computer output in Braille, and can display books and other material in Braille. For deaf-blind persons, Braille printers and displays assist with day-to-day communication and computer access for work, school, or home independence. Refreshable Braille displays provide access to computers via electronic Braille. The Braille display, consisting of plastic pins that are electronically raised and lowered, changes as the cursor moves from line to line on a computer screen (Lighthouse International of New York 2004). Also, note takers are devices that are portable and equipped with a Braille or typewriter-style keyboard for input and available synthetic voice output (Lighthouse International of New York 2004). These are excellent tools for recording notes at school, home, and work.

Assistive technology devices are making the lives of the blind and visually impaired easier. With the addition of appropriate assistive technology, such as the hardware and software mentioned above, people with impaired vision can participate in various activities thought previously to be inaccessible. Some of these activities include word processing, use of spreadsheets and databases, sending and receiving e-mail, navigating the Web, reading the daily newspaper, and performing most other computer tasks.

2.3.1.1 Assistive Technology Training

While the previously mentioned assistive aids allow blind and partially sighted individuals almost full access to computers and written data, these assistive aids require training to fully realize their potential. While some assistive aids require little training like standard CCTV's,

other software or hardware setups like JAWS, ZoomText, and Braille devices require up to nine months worth of training to fully understand and properly use this software and hardware (Seattle Lighthouse 2004). For this reason, organizations from around the world offer vocationally based training programs in assistive technology. The primary goal of any training or rehabilitation organization for the blind is to facilitate the independence of any visually impaired individual, both socially and economically. Proficient computer skills and familiarity with the available range of technological aids designed for the visually impaired mean greater job opportunities (Columbia Lighthouse 2004).

One such computer-oriented organization, Miami Lighthouse, located in Miami Florida, has developed a computer training program using the aforementioned assistive technology. This program is specifically tailored for the visually impaired and to the vocational applications of computers. The training program is designed to enable participants to better excel at their current job duties, or to adequately prepare them for employment opportunities in the future (Miami Lighthouse 2004).

Another group that promotes the use of technology and computers in training the blind is Columbia Lighthouse for the Blind (CLB), which has been mentioned previously for its services and outreach programs. CLB is an organization that assesses the skills and vocational goals of an individual and, based on these, selects the proper technological aids essential to accomplish those goals (Columbia Lighthouse Website 2004). Upon successful assessment, one-on-one training is provided for all assistive devices and software including Microsoft Windows, word processing, spreadsheets, Internet, e-mail, and other software packages geared toward the practical and occupational applications of assistive technology (Columbia Lighthouse 2004). CLB also offers custom installation of these

assistive aids at a person's workplace, works with employers to find the best arrangement for the employee, and integrates the adaptive software with existing computer systems.

Seattle Lighthouse, as mentioned earlier, is another organization and manufacturing company committed to the vocational training of visually impaired individuals in computer technology. Its training program operates in a similar fashion to that of Columbia Lighthouse, but Seattle Lighthouse directly applies these computer skills in their manufacturing department (Seattle Lighthouse 2004). The visually impaired have the chance to both be trained in the use of assistive technology and to put this knowledge directly to use in a productive manufacturing environment. The philosophy at Seattle Lighthouse maintains that each employee be provided with all of the necessary provisions for success in the workplace (Seattle Lighthouse 2004). Through assistive technology, blind employees at this corporation are capable of participating in every aspect of the manufacturing process.

The Royal Victorian Institute for the Blind (RVIB) also recognizes that blind and partially sighted individuals cannot access or use computer programs like Microsoft Word, Excel, Windows, and Office without additional aids (Royal Victorian Institute for the Blind 2004). RVIB thus realizes the need for training in the use of computers and in the operation of the assistive technology that makes them available to the visually impaired. Computers are essential to most service sector jobs today. This adaptive technology training assists students to read newspapers, stock market reports, letters, pamphlets, and bills. Computer skills also enable families to keep in touch via email, and open a new world of information through the Internet.

Overall, adaptive technology training programs have opened the doors for the employment of blind and visually impaired people. Not only have recent technological advances allowed blind people into different jobs, but they have also become crucial to the independence and quality of life of many blind people nationwide. From being able to read the The New York Times to

being a skilled CNC machinist, assistive technology training is opening new jobs and offering a fuller independent life to the blind and partially sighted.

2.3.2 Trade Based Opportunities

Though computer assistive technology is a growing field, many organizations that offer vocational training for the blind provide a far greater abundance of trade-based opportunities. These institutions provide training in different trades, depending on consumer demand and location. Through these programs, blind and partially sighted students can become trained and knowledgeable in a specific field, and thus be capable of eventually working in their community or even owning their own business.

Some organizations for the blind provide many different trade oriented vocational programs while others specialize in specific trades. One organization that offers a large variety of vocational programs is the Hong Kong Society for the Blind (HKSB) in China. Throughout the last 55 years, HKSB has continued to open doors to new opportunities and occupation for its students. The organization started introducing vocational programs in the 1950's (HKSB 2004). The first programs available were weaving, brush making, broom making and plastic flower assembly. In the 60's, new programs in piano tuning, massage training and telephony were added (HKSB 2004). By the late 70's, a variety of jobs were introduced in industrial training, office reception, Braille Chinese reference and the recreation of books into Braille (HKSB 2004).

As of now, there are many different areas of vocational training offered at HKSB. Students can choose between professional, computer based, phone based, and massage or manufacturing vocational courses (HKSB 2004). Professional positions include: manager, executive,

officer, social worker, translator or teacher. Computer based programs include: programmer, data processor, operator or system analyst. Jobs in telephony include: operator, customer service officer, market researcher and counsellor. If interested in massage, students can take courses in both regular massage and beauty massage. Finally, manufacturing jobs include: industrial sewing, handicraft, assembly and work in production factories to produce cardboard boxes, Braille and tactile products and sewed articles such as clothing, bags and linen.

The National Institute for the Visually Handicapped (NIVH), located in Dehradun, India, also offers a variety of trades and is an independent body under the Ministry of Social Justice and Empowerment (NIVH 2004). In this organization, vocational training is offered in the following trades: chair caning, handloom weaving, light engineering, Braille stenography in Hindi, typewriting, knitting, detergent powder making, Braille, music, candle and chalk making, orientation and mobility, electronics, home science, telephone operation, computer operation, physiotherapy, computer operation, and programming skills (NIVH 2004).

Also in India, the National Association for the Blind of India offers many types of vocational training. The organization separates the employment opportunities into three types depending on the individual student's education, literacy and skill-set (National Association for the Blind, India 2004). The first type, open-employment, is used to find jobs for both the educated and non-educated, for the skilled and unskilled. These jobs include: textiles, mills, factories, commercial firms, government organizations, municipal schools, institutions for the blind and lastly sugar factories. Self-employment, or entrepreneurs of small business, is reserved for the students who have higher education and a vast set of skills. These jobs include vending stalls, handicapped public call officers, STD/ISD Kiosks and selling stationary. Finally, The Home Bound program is for students who cannot travel outside the home due to lack of mobility or other disabilities. These students are trained in

domestic jobs such as flour grinding, sewing, stitching, cutting, etc. These vocations have proven successful in India, which is shown by the fact that since 1954 over 6,500 students have graduated from the association's vocational training program and become successful professionals (National Association for the Blind, India 2004).

Braille Without Borders (BWB) in Tibet also offers many different types of vocational programs. Due to the popularity of agriculture, blind students requested and received programs to be trained in cultivating vegetables and grain as well as in milk, yogurt, and cheese production (BWB 2004). However, being such a small institution, BWB decided to offer only programs that their mere 30 students wanted. BWB currently offers training in Tibetan and Chinese medical massage, pulse diagnosis, acupressure, music, and handicrafts such as knitting, weaving, pottery, carpentry, and basket making (BWB 2004). Since the student population is continually changing, BWB hopes to do the same and soon offer programs to train its students in office work, accounting, basic computing, and bookkeeping programs (BWB 2004).

Like the organizations in India and Tibet, there are many different vocational opportunities for the blind and partially sighted in Thailand. The main organization of Thailand is Light for the Blind, but this organization branches out into other societies and institutes to cover a vast area of services for their visually impaired citizens. The organizations that are directly related to the topic of vocational training are The Skills Development Center for the Blind and The Samphan Rehabilitation and Vocational Training Center for Blind Women (Light for the Blind 2004).

The Skills Development Center for the Blind is a vocational training center that was developed to find employment for the male, blind graduates of both Thailand's regular school system and the blind educational system. Originally, the organization was started to teach blind men carpentry and gain employment in that field (Light for the Blind 2004). Unfortunately, employers wouldn't hire

the blind students due to safety reasons. So in 1979, the organization took a different approach and started programs in telephony and Thai massage which have proven successful to date.

The Samphran Rehabilitation and Vocational Training Center for Blind Women, on the other hand, was introduced for the training of visually impaired women of Thailand. However, the only vocational training provided for women was to be employed as a housewife (Light for the Blind 2004). The female students are taught the arts of cooking, housework, knitting, crochet, carpet making, Thai music, piano and massage.

While these institutions have an extremely diverse spectrum of offered trades, some organizations are more limited. One example of this is the Ephpheta Foundation for the Blind in the Philippines. The students live in dorms while they attend classes five days a week. The classes offered are piano and organ, string instruments, therapeutic massage and reflexology (Ephpheta Foundation for the Blind, Inc 2004). Also with limited vocations is the School for the Visually Impaired, University of Tsukuba in Japan. This organization only offers programs in massage, acupuncture, disease curing, music, physical therapy and physiotherapy (School for the Visually Impaired, University of Tsukuba 2004).

Similar to both the University of Tsukuba and the Ephpheta Foundation's limited vocational offerings, The Natal Society for the Blind in Africa offers only two types of vocational training courses. The first is cane-weaving training. This course lasts two months and provides the students with basic weaving training and allows for certification upon completion (Natal Society for the Blind 2004). After being tested in the weaving, successful students will receive a document, certifying their excellence and are supplied with start-up kits to start working in the organization's weaving company (Natal Society for the Blind 2004).

The second trade offered at NS is directly related to the completion of the first. Once a student has been certified, one can learn to become a small business owner. After six months of working for the weaving company, the weavers are trained in basic business management skills and can then branch out and manage their own small weaving business (Natal Society for the Blind 2004). This allows the blind students to become small business entrepreneurs, to start competing in the open market, and to start living off of their own salaries. As mentioned before, trade-based training varies with region. Since there is a large demand for cane woven products in Africa, weaving is an obvious trade choice.

In the United States, however, the organizations and institutions for the blind have to offer different types of trade-based programs. Most students at the Oregon School for the Blind (OSB) in Salem, Oregon start their pre-vocational training in classrooms but quickly move to on-campus vocational jobs. Through these jobs, students can learn necessary work skills, behaviors and attitudes while beginning to gain on-the-job experience (Oregon School for the Blind 2004). Students can choose from vending businesses, delivering orders, assisting in the cafeteria or infirmary, clerical positions, and many more while residing on campus and receiving twenty-four hour supervision.

Once students are confident in their new skills and feel they can venture off into the working world, OSB offers unique opportunities within the community. The OSB program is supported largely by participation from the local community. Students, while being supported by OSB staff, can receive training in various local businesses from restaurants to beauty salons and even work with a Braille magazine publisher (Oregon School for the Blind 2004). The high involvement of the local community allows the students to work in fields perceived to be unconventional for the blind and partially sighted.

Another interesting type of vocational training takes place at the Lions World Services for the Blind in Arkansas. Though the organization offers many on-campus opportunities like OSB, they specialize more in white-collar employment. In addition to its general vocational opportunities, Lions has obtained such advances in technology that they offer five vocational training programs with the United States' Internal Revenue Service. These courses are diverse and include training in the following professions: assembler language specialist, contact collection representative, service center collection representative, office automation specialist, and taxpayer service representative (Lions World Services for the Blind 2004).

Many different trade-based vocational programs are offered around the world. The various programs are often revised and new programs added due to the changing economy and product need in different regions. This type of vocational training is the most prevalent but it is often hard for smaller organizations to continue offering such programs. Therefore, government involved or funded vocational programs for the blind are crucial to this type of vocational training.

2.3.3 Government Involvement

The American Council for the Blind (ACB), located in Washington, D.C. was founded in 1961. "It has 51 affiliate states and regional affiliates and 20 national special interest and professional affiliates" (American Council for the Blind 2004). The ACB intends to improve the overall well-being of blind and visually impaired persons. ACB has various programs that assist them in meeting this goal.

Education is a key factor at ACB. This organization conducts various public education programs to promote a greater understanding of blindness and its effects (American Council for the

Blind 2004). ACB also publishes “The Braille Forum,” which is a free monthly periodical. This magazine often provides literature on new legislation, new products, and employment opportunities. Scholarship assistance is available to post-secondary students to assist in the furthering of their education. In addition the ACB holds leadership and legislative training programs. Another stronghold of the ACB is their political involvement in the implementation and enforcement of legislation affecting the blind such as the Americans with Disability Act and the Federal Vocational Rehabilitation Act.

Legislative acts like the Javits-Wagner-O’Day Act and the Americans with Disabilities Act of 1990 protect people who are blind or have other disabilities and enable them to work through local community-based organizations to provide quality, on-time goods and services to the federal government and the community (Javits-Wagner 2004). The Javits-Wagner-O’Day Act is effective because federal customers honor their commitment to the program by purchasing products from a pre-determined procurement list. Over 75% of the direct labor force of organizations operating under this act must be comprised of people who are visually impaired or have other disabilities (National Industries for the Blind 2004). These organizations concentrate mainly on producing goods from the procurement list. This act thus provides employment and subsequent training for over 36,000 Americans who are blind or have other severe disabilities (Javits-Wagner 2004).

Dallas Lighthouse, of Dallas Texas, is one such organization that works through the Javits-Wagner-O’Day Act (Dallas Lighthouse 2004). The primary mission of this Lighthouse is to train visually impaired and blind individuals in manufacturing techniques that will allow them the opportunity to secure employment outside the Dallas Lighthouse manufacturing corporation if they so desire (Dallas Lighthouse 2004). This center employs 102 people with 84% of the labor force composed of either blind or visually impaired individuals (Dallas Lighthouse 2004). Dallas Lighthouse

uses a one-stop-shop program format that provides direct training and employment on location at their industrial center. This program format greatly aids in the delivery of the training because it provides visually impaired persons with a clear obtainable vocational goal and also guarantees on-sight employment once training is completed. Programs of this type are typical of government funded training and employment organizations.

Supported through the government, this type of training allows blind and visually impaired persons to integrate with their peers, establish productivity, and produces a healthy environment for social and vocational adjustments to blindness; most importantly, however, is that it provides paid employment (Dallas Lighthouse 2004). Through this direct skill training, newly visually impaired individuals overcome the attitude that previous skills have been lost or are no longer possible to be performed. After training has been completed it is up to the individual if they wish to remain employed at the institute's industrial center or use the skills learned to find other promising employment opportunities.

Permanent markers, chart markers, dry erase markers, and highlighters are the primary products produced at the Dallas Lighthouse. Dallas Lighthouse manufactures not only the SkilCraft Brand, sold only to government agencies, the Military and GSA, but also their own brand, TouchCraft, which is sold to the commercial marketplace (Dallas Lighthouse 2004).

The Blind Industries and Services of Maryland is another organization that operates under the Javits-Wagner-O'Day Act and offers innovative rehabilitation services, training, and provides employment opportunities to Maryland citizens who are blind or visually impaired (The Blind Industries of Maryland 2004). Blind Industries of Maryland employs over 250 blind associates to run their ten facilities and is a direct supplier of over 2000 quality SkilCraft products made by Americans who are blind or severely disabled. Direct hands-on training and direct application is the foundation of

its training philosophy. Most instructors at this organization are blind and serve as mentors and counsellors to the students.

Another government funded program is in the vending services field. The Oregon School for the Blind and the Massachusetts Commission for the Blind are just two examples of organizations that offer vending facilities programs. Blind and partially sighted persons interested in an independent career in the vending business are provided with the training necessary to run their own private business. These concessions range from news-stands and coffee shops, to vending machine routes, and cafeterias. Once fully trained and certified, managers are responsible for hiring and training employees, ordering and stocking machines, maintaining and repairing vending machines, and all financial aspects of their business (Bill Scully). Most vending service programs operate under the support of the Federal Randolph Sheppard Act and are funded through the Vocational rehabilitation program. This act authorizes the operation of vending facilities on any Federal property by persons who are blind in an effort to expand their economic opportunities and independence (Randolph-Sheppard Act 2004). These vending stands or stores are housed in government buildings throughout America and provide business training and an independent career for the blind and partially sighted (National Industries for the Blind 2004).

Mentioned before, Seattle Lighthouse is yet another organization that operates under the Javits-Wagner-O`Day Act (Seattle Lighthouse 2004). Products manufactured by the blind through this corporation vary and include Boeing aircraft parts, canteens for the military, easels, paper trimmers, file folders, business cards, and cooking utensils (Seattle Lighthouse 2004).

Recently, South Africa's government has commenced in establishing more career opportunities for the blind and people with disabilities. "Finance Minister Trevor Manuel this week launched an innovative joint project between the South African Revenue Service (SARS) and the South

African National Council for the Blind (SANCB) that will prepare blind people for the job market” (South Africa 2004). This will be done through opening up more jobs to the blind and partially sighted in the SARS.

Students will complete a training course in order to prepare them for work as call center agents at SARS. This training would be similar or comparable to telemarketer training. The SARS is expanding and this is allowing it to hire more people in their facilities. “SARS currently has an 88-seat call centre in KwaZulu-Natal and 93-seat call centre in Cape Town. The seats are expected to be increased to 290 in both centres, with another centre housing 140 call attendants and operators due to be established in Johannesburg” (South Africa 2004). This dramatic increase will supply the highly unemployed blind population with vocational training for this job as well as a career option.

South Africa’s government assistance of its blind population is beneficial and necessary. “As part of the agreement, SARS will provide technical assistance to the SANCB, while the SANCB will advise SARS in sourcing blind professionals for possible employment in other areas of business in SARS. SARS says it will create 720 jobs for young, enthusiastic blind people who want to make a contribution to effective governance” (South Africa 2004). The government also seeks to educate its employees and the community in working with the blind and people with disabilities through a nationwide campaign (South Africa 2004). Government participation and activism is a way in which a government can assist the people and community it serves.

Blind and partially sighted individuals, through these federally supported organizations, gain valuable vocational manufacturing and business training experience. They are exposed to a clear-cut and directly applicable field of work, and are offered direct employment if they so desire. The one-stop-shop format provided in some of these programs is very effective at employing and subsequently vocationally training blind and visually impaired individuals in the manufacturing and service

industries. Backed by the federal government, these programs provide guarantee jobs and training to blind and visually impaired persons nationwide.

2.3.4 Teaching Methods

Though there are many different types of vocational training programs, there are even more ways to go about teaching them. Though each institution has a different teaching method, many of the organizations utilize the same techniques. Most present day organizations utilize technical assistive devices to work with the remaining vision of some students. The use of devices or programs such as CCTVs, ZoomText, or JAWS help students learn in the conventional way that is used in most public schools.

Along with technical assistance, many organizations such as OSB and Perkins limit the classroom size. The smaller class allows for more one-on-one training and supervision. This allows the blind and partially sighted students to learn more quickly and thoroughly while getting as much assistance from the instructor as possible.

The instructors themselves must be very knowledgeable in the education of the blind. Specially trained teachers can give the students an advantage by knowing each student's strengths, skills, and interests, and how to better cater to their personal needs (Perkins School for the Blind 2004). However, one organization goes against this theory of specialized teachers. The first teachers at The Skills Development Center for the Blind in Thailand were regular teachers and were not specifically trained. As the school expanded, though, the regular teachers could not keep up with the demands and soon all teachers had quit. From 1985 until now, the organization and training has been completely run by priests who are experts in vocational training of non-disabled people (Light for the Blind 2004).

Though most vocational programs for the blind use the teaching methods of OSB and Perkins, some schools do not have the resources or need additional teaching methods. Braille Without Borders in Tibet employs the same teaching methods, but uses a unique system to educate its instructors due to lack of funds and technology (Braille Without Borders 2004).

In order to teach their students, the instructors at BWB travel to different parts of the world to learn how to teach the blind students what they wish to learn as a vocation. Some teachers have travelled to Germany to be trained in orientation, mobility, and special techniques while others have enlisted the help of a Swiss cheese maker to develop a special method that enables blind people to produce cheese (Braille Without Borders 2004). Braille Without Borders takes a similar approach to many other organizations in the education and training of its students, but the teachers let the students discover their own boundaries as a blind person, as implied in the title Braille Without Borders (CNN.com 2004). When unhindered by restrictions and a strict education structure, students can begin to learn self-reliance and a sense of independence.

This organization has also found it beneficial to take the students out of their familiar surroundings for a certain period of time rather than work with them in their homes (International Herald Tribune 2004). This helps them to accept and learn the techniques for the blind more easily. Additionally this helps blind and partially sighted individuals have the opportunity to communicate with other blind people and exchange experiences and the problems they face in their respective home situations.

The Blind and Vision Impaired Persons Charitable Network (BVIP NET) Inc. in Queensland, Australia has found that visually impaired teachers can have a greater impact on training and educating visually impaired students (Peter Ryan 2004). Unfortunately most of the sighted trainers and teachers are highly educated but are unable to have a full understanding of the problems facing a

visually impaired person. This miscommunication creates an immediate conflict that usually causes the visually impaired person to leave the course that they needed to gain employment resulting in a further loss of confidence (Peter Ryan 2004).

The Institute for the Blind and partially Sighted in Copenhagen, Denmark has a holistic approach to teaching. In an interview with a Niels Olesen, a student and a teacher at IBS, we learned various aspects about IBS' teaching methods. "Here at IBS we have a holistic approach where we look at various aspects for the individual. Some things we might look at include what they like, how they do things, what motivates them, what their personal history is. Our approach is slow. It is not a step by step process" (Niels Olesen 2004). (Please see Appendix J for a detailed account of this interview). Instructors have specialized training as well. "Instructors are trained to teach different types of students. There are different methods for teaching each group. For example, some groups may include: people that have been blind all their lives, and then people that go blind later on in life" (Niels Olesen). At IBS, educational components are taught in the classroom while some training takes place in the student's home. The most important factor in teaching the blind, Niels indicated, was the need for the blind students to gain independence through their education and training. "The most important thing to learn is to be independent. The hardest thing for the blind is just getting them out of their homes and into society. Blind people need to learn how to travel, ask questions, and help themselves" (Niels Olesen).

Though vocational programs are relatively similar around the world, each institution uses the resources that it has to provide the best possible training for its students. No matter the region or the resources, the main focus is to use any possible means to raise the unfortunately low unemployment rate and improve the vocational training of the blind and partially sighted.

2.4 Chapter Summary

By researching and investigating cultural implications and the various types of programs available to the blind and partially sighted worldwide, one can gain a greater understanding about the challenges facing blind and partially sighted persons and the vocational opportunities that are now available to them. The research in this chapter has provided a broad overview of different vocational training programs worldwide. Utilizing this information will allow for the realization of valuable training approaches and methods already taking place in the vocational training field. Through the research completed in America and in Denmark, much has been accomplished and a great deal of information has been discovered. The following methodology section provides an overview of how this project was completed.

3.0 METHODOLOGY

When completing a project for a company or organization, researchers follow various steps to complete the task. The methodology of a report explains the steps of how the problem was addressed and why certain specific steps were taken. By outlining and discussing the processes used to research data, analyze results, and propose new applications, this section enables the reader to more readily comprehend the execution of the project. Relevant subject matter includes sections on researching literature and sources, finding interview possibilities, introducing focus groups, and studying instructors, vocational training programs, students, and employees through natural observation. The manner in which pertinent information for this project was researched is discussed in the following methodology section.

3.1 Researching Supporting Literature

Most of the presented data on the prevocational and vocational training of the blind and partially sighted was collected through studying worldwide organizations that provide such services. Organizations of importance included any that provided vocationally related services to the visually impaired and were generally found through searching the Internet. As a prescreening tool, a directory on the services for the blind and visually impaired was used as a starting point for finding organizations in the United States. This directory, Directory of Services for Blind and Visually Impaired in the United States and Canada, is an alphabetical listing of all service organizations for the visually impaired in the United States and Canada.

With the aid of this directory, organizations that provide vocational related services were investigated and then rated by their size, types of programs or training offered, and by their training approach. From this group of organizations, several were chosen to provide a broad range of organizations both geographically and occupationally. These organizations were then researched in-depth and used to provide a selection of the vocational training provided in the United States.

Along with these organizations in the United States, we broadened our Internet research to cover a vast number of countries worldwide, concentrating especially on Asia, Western Europe, and Australia. This Internet research presented us with information on the types of vocational training offered in these various countries along with their distinct approaches to education and training. The Internet provided quick and easy access to the most up to date information on a variety of different organizations. While personalized interaction with organizations of interest would have been preferred, for the most part, customized emails, long-distance phone interviews, and requests for supplementary data on the specifics of organizations proved unsuccessful.

3.2 The Importance of Interviewing

Interviewing is an essential tool in verifying data already obtained as well as helpful in making contact with relevant people associated with one's project. Establishing this relationship allows for the collection of primary data sources, enables the interviewer to provide credibility with the interviewee, and offers a broader understanding of the topic at hand. In this project, interviewing has been especially beneficial in collecting data on vocational training programs offered at institutions for

the blind. In Denmark, this method of interaction and source accumulation served to enrich the project through personal encounters.

When completing a project for an association, company, or institute, a research team must first establish contact with the supporting sponsor. Recognizing and establishing a solid foundation for one's project offers advantages and insight into what the sponsor expects and this allows the group to learn more about it. The Institute for the Blind and partially Sighted in Copenhagen, Denmark has kindly sponsored this project on worldwide research in vocational training of the blind and partially sighted. Annelise Monsen and Morten Schmidt, the project's liaisons, have been a contact source that proved vital in learning more about their expectations, their facilities, and the project itself.

Several additional personal acquaintances from other organizations have provided this project with information regarding the various vocational training opportunities available to visually impaired persons in the United States. The Perkins School for the Blind, an organization in Watertown, Massachusetts, is one such organization that was discussed in the previous section. This organization was of interest because it provided a prospective source of information on specific training and teaching methods used in the education of blind and partially sighted individuals. Because of its nearby location to Worcester Polytechnic Institute, it was a perfect candidate for a one-on-one interview. Due to schedule conflicts, however, a phone interview was arranged with Sandra Boris-Berkowitz, one of Perkins Institute's vocational training coordinators. This interview provided pertinent information on current teaching methods and first hand knowledge about Perkins' vocational and outreach programs (Please refer to Appendix E for a detailed account of this interview).

In an interviewee was Bill Scully, a vocational counsellor at The Massachusetts Commission for the Blind. This association has an office in Worcester, Massachusetts. Its particularly close proximity to Worcester Polytechnic Institute allowed for a personal interview with Mr. Scully.

This interview validated much of the research already gathered, along with opening new possibilities and avenues for additional research. Most importantly, this interview with Bill Scully exposed some of his personal opinions, concerns, and ideas regarding the current state of vocational training for the visually impaired in the United States (Please refer to Appendix D for more information on this interview).

With the ultimate goal of providing IBS with helpful suggestions for new vocational programs for the blind community, it was first necessary to understand IBS's approach to education and their offered vocational courses. This was done primarily through interviewing various personnel at IBS and consequently provided us with insight into their programs as well as their philosophy and teaching approach. In an interview with Niels Olesen, a student and a teacher at IBS, we learned various aspects about IBS' teaching methods and approach to learning (Appendix J provides additional information on this interview). The Institute for the Blind and partially Sighted in Copenhagen, Denmark supports a holistic approach to teaching which focuses on the unique aspects of the whole individual and their distinctive goals. With this approach to education there is a greater emphasis placed on individual students and their talents, desires, and personal career goals. All students at IBS participate in a unique course program that is designed specifically based on these vocational and personal goals. Annelise Monsen, as director of the business school at IBS, further explained this unique educational approach. According to Monsen, rather than provide a restrictive and overly structured plan of education and training for one specific skill or profession, instructors focus on allowing individuals discover themselves and work toward their personal occupational dreams through guidance, support, and skills training from instructors like Niels Olesen.

These key aspects of IBS' programs were further affirmed in another informal interview with IBS employee Kenneth Pedersen. Through speaking informally with Kenneth, one of the

wooden-workshop instructors, we discovered that carpentry skills education is taught to visually impaired and sighted individuals in primarily the same manner. The basic skills training acquired through this carpentry workshop also helps to alleviate one of the common stereotypes and misconceptions about blind and partially sighted trade workers mentioned earlier. This then serves to instil confidence and opens new opportunities for the visually impaired individuals through using the hands-on and life skills learned through this carpentry course. Where and how the skills learned through this course are put to use is up to the individual. Once completing this course an individual may want to work for a larger woodworking corporation, start his own small business, or continue a life-long and rewarding hobby in carpentry.

While in Denmark, interviews have included, administrators, students, and teachers at IBS. Interviewing has provided an additional source of data, validated former research, and has exposed a number of personal feelings, concerns, and ideas regarding the vocational training of visually impaired persons. These interviews were structured, but informal and conversational. Through the development of purposeful and appropriate questions, the interviewer provides the framework for a successful interview. The questions asked at these interviews were tailored to the organization, person, and environment. These interviews were accomplished by contacting the association, or person directly and through phone interviews.

3.3 Focus Groups

Focus groups, while similar to interviews, are conducted in a group setting of six to twelve participants, and can be useful in extracting the personal opinions, concerns, and ideas of its

participants. For this project a group of this size was preferred but unavailable. A focus group of four individuals was, however, accessible. One participant was an instructor at IBS, Niels Olesen. The other three participants were students at IBS. Their names were Steffen Petersen , Martin Hansen, and Henriette Gorrison. The focus group was performed informally and the participants were involved with the IT career path program. Although the three students all are training in the IT path, they all have different career goals. A varied and diverse group was desired.

The questions asked in the focus groups were opinion based and related to vocational programs offered at other organizations around the world and also concerned their personal ideals (Appendix K provides a detailed account of this focus group including participants' questions and responses). Feedback from the focus group served as a means to test newly proposed ideas and gain feedback on newly researched, innovative vocational programs for the blind. Additional feedback was used to evaluate currently offered occupational training programs for the blind and partially sighted from around the world. This feedback helped to define the vital characteristics of effective vocational training programs. This focus group also served to expose concerns, personal ideas, and views held by students at IBS.

Specifically, feedback from this focus group comprised of students from IBS was used to determine which types of programs students would like to participate in or would like to see developed at their institution (Please see Appendix K: Focus Groups). This group was also used to determine the array of commonly perused occupations, and the necessary training that one feels is needed before being competent enough to venture into the workforce. Once the focus group was conducted and the opinions were sorted, final suggestions and recommendations were made by our project group. The final results and recommendations gathered from this project will educate and help IBS develop additional successful vocational training programs and help to facilitate international collaboration.

Results from the focus groups provided opinions on what types of programs the focus group thinks are feasible and wanted by students. Sorting answers and obtaining feedback allowed for suggestions of possible additions to IBS' programs in the final report.

3.4 Natural Observation

Personal interactions and observations of the training of visually impaired individuals offer an in-depth awareness of some of the challenges they face vocationally. This type of interaction provides a third way of gaining information and feedback on current training approaches and the effectiveness of different programs. This communication also exposes some of the available training solutions already utilized in professional training programs. In Denmark, attention was placed on a specific observation group, students at IBS.

Observing students in vocational training programs offered at IBS greatly aided in gaining an accurate understanding of the vocational issues of blindness. Interaction within these programs further served to exemplify these difficulties experienced by blind and partially sighted individuals, provided credibility to former research, and offered practical experience within the field of training.

Personal interaction and observations can also illustrate necessary yet sometimes overlooked aspects of the workplace. Through personal interactions with blind persons, one can learn of their desires within the workplace and some of the concerns they feel are most important and troublesome about the current state of job training. This interaction can demonstrate areas in need of improvement and aspects of vocational training that are most important to success. Overall satisfaction

is one aspect of a person's profession that has a dramatic effect on success and enjoyment. Personal interaction uncovers some of these desires and provides insight into the fundamental needs of vocational training programs for the visually impaired. In Denmark, this method commenced through visiting IBS classrooms.

A woodshop classroom was observed firsthand. As mentioned earlier, Kenneth Pedersen, one of the instructors gave us a concise overview of the carpentry course and showed us some of the final products and tools. This observation proved that the education and training of visually impaired and sighted individuals is very much alike. This interaction also proved that there are many other important aspects and outcomes of vocational training programs, like this one, other than their ability to provide economic independence for the individual. Examples of some commonly overlooked aspects include gaining self-confidence and pride in one's own work and exploring one's creativity. Several times, French lessons were observed from a far. Classes in languages such as French could open up doors for a career in language interpretation or other job opportunities utilizing languages.

3.5 Future Program Suggestions

In utilizing the aforementioned methodology, this project successfully completed its purpose of gathering and analyzing data on worldwide vocational training programs for the blind. Key aspects of successful vocational training programs and concerns of the blind in the workplace were highlighted. The data is categorized into three different sections: Vocational Implications, Prevocational Training, and Vocational Training. Focus groups, interviews, and observations allowed for feedback to help evaluate the different programs that are offered at institutions and organizations

around the world. Once analyzed, this information allowed the project group to suggest and inform the Institute for the Blind and Partially Sighted of possible viable programs that could be implemented in its vocational training department. These programs along with the criteria that were used to select them will be described in following sections. Through interaction with the blind students at IBS and with the use of focus groups we were able to gain feedback about new ideas and programs offered at other organizations and suggest new vocational programs and improvements at IBS. Innovative programs and creative suggestions are always valuable when striving to help others. IBS' sponsoring of this project directly intends to make a positive impact in the lives of the blind.

4.0 RESULTS AND ANALYSIS

Throughout this project, our group has taken numerous steps in planning and executing ways in which to gather, organize, and analyze vocational training opportunities from around the world for blind and partially sighted individuals. The ultimate goal of this project was to propose new, applicable vocational training programs to benefit the Institute for the Blind and partially Sighted. In researching programs from around the world, it has been noted that not all programs would fit or be valuable to IBS. The following selection includes relevant programs that could be usefully applied at IBS in the future. An analysis of each of the selected programs is also provided and compared to IBS's educational approach and goals. The ultimate decision of what information to utilize is that of IBS and various factors will be considered. Additional contact and investigation by IBS of each of these organizations and their programs is necessary before these suggested vocational training programs can be implemented at IBS. The key criteria that these findings were based on are as follows:

- 1) The proposed program could be easily adapted to Danish culture
- 2) Success (i.e., number of job placements) is obtainable for both the student as well as IBS through this program
- 3) The proposed program coincides with IBS' holistic approach (Please refer to Appendix H which lists these criterias and provides a more detailed description of each).

With these criteria in mind, a selection of vocational possibilities for IBS are discussed in the following section. First a brief synopsis of IBS's programs and education approaches is provided.

4.1 Careers for the Blind or Visually Impaired

When researching vocational training organizations for the visually impaired, one will discover numerous jobs and careers that are frequently available to the blind and partially sighted community. Below is a listing of the many job and career opportunities we have found to be available to visually impaired individuals through researching and executing this project’s methodology. However, with an ever changing society, frequent technological advances, and the ability to pursue one’s utmost dreams, the vocational possibilities for the blind and partially sighted are almost endless. This list is a rather fair example of some of the commonly pursued occupations that are available to visually impaired people. In order to more clearly understand what kinds of occupations blind and partially sighted individuals are involved in, *Table 4.1 Job Opportunities* categorizes the following vocations into four main categories including office, craft/trade, music and other. This table illustrates that craft and trade opportunities are the most common forms of vocations offered at organizations worldwide.

Table 4.1 Job Opportunities

Office	Craft/Trade	Music	Other
Clerical Positions	Acupressure	Chorus	Assisting In The Cafeteria Or Infirmary
Commercial Firms	Acupuncture	Individual Instruments	Beauty Salons
Computer Operation	Assembly	Organ	Braille Chinese
Computer Programming	Basket Making	Piano	

Contact Collection	Beauty Massage	Piano Tuning	Reference
Representative	Broom Making	String Instruments	Braille Magazine Publisher
Data Processor	Brush Making	Thai Music Production	Braille Stenography In Hindi
Executive	Candle Making	Voice	Cooking
Government Organizations	Cane-Weaving		Counsellor
Office Automation	Carpentry		Customer Service Officer
Specialist	Carpet Making		Delivering Orders
Officer	Chair Caning		Handicapped Public Call Officers
Office Reception	Chalk Making		Home Science
Operator	Cheese Production		Housework
Programmer	Chinese Medical		Institutions For The Blind
Manager	Massage		Municipal Schools
Market Researcher	Crochet		Restaurants
Recreation Of Books Into Braille	Cultivating Vegetables and Grain		Selling Stationary
Service Center Collection Representative	Cutting		Social Worker
Small Business Management	Detergent Powder Making		Teacher
Taxpayer Service Representative	Disease Curing		Vending Stalls
Translator	Electronics		
Typewriting	Factories		
	Flour Grinding		
	Handicraft		

	<p>Handloom Weaving</p> <p>Industrial Sewing</p> <p>Industrial Training</p> <p>Knitting</p> <p>Language Specialist</p> <p>Massage Training</p> <p>Milk Production</p> <p>Mills</p> <p>Physical Therapy</p> <p>Physiotherapy</p> <p>Plastic Flower</p> <p>Assembly</p> <p>Pottery</p> <p>Production Factories To Produce Cardboard Boxes</p> <p>Pulse Diagnosis</p> <p>Light Engineering</p> <p>Reflexology</p> <p>Sewed Articles Such As Clothing, Bags and Linen</p> <p>Stitching</p> <p>Sugar Factories</p>		
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	System Analysis Tactile Products Textile Production Tibetan Medical Massage Weaving Yoghurt Production		
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4.2 The IBS Plan

IBS' offered programs must first be explored and examined in order to understand what other types of programs would best benefit and inform IBS. At IBS there are three major career categories, including careers in office, crafts or trades and music. To help compare and contrast IBS with other compatible organizations and vocational programs, each candidate organization has also been organized into these three categories. An additional category has been included for vocations that do not fall into the three major career opportunities of IBS. Below, in table 4.2, is a listing of the programs that IBS offers.

Table 4.2 IBS' Programs

Office	Craft/Trade	Music	Other
Telemarketing	Piano Tuning	Organist	N/A
IT Service	Weaving	Music Profiling	
Call Center	Massage	Individual Training	
EU Computer Driving-License	Sound Studio Production Workshop		

Understanding IBS' mission and overall approach to vocational training of the blind allows program recommendations to be made based not only on the programs offered at other organizations, but also on their plan and overall approach to education. The overall goal of IBS is to assist blind and partially sighted people in providing the greatest possible compensation for the effects of visual impairment through instruction, guidance, and training (The Institute for the Blind and Partially Sighted of Denmark 2004). Along with its objective, IBS uses a holistic approach to understand each of the individual student's needs. By using this approach, instructors at IBS can find the best possible opportunities for the student, based on one's personality and interests as well as on one's level of skill in certain areas.

A better understanding of IBS' philosophy of training and educating visually impaired individuals was gained through several unstructured discussions with teachers and educators from different vocational training departments at IBS. Basing our judgment on these informal interviews conducted with instructors from the IT and woodshop divisions, we were able to uncover a basic teaching and psychological approach to vocational training at IBS. Rather than provide a restrictive and overly structured plan of education and training for one specific skill or profession, program

educators of blind and partially sighted students at IBS focus on aiding pupils work toward their own unique aspirations. Keeping these desires and dreams in mind, the students at IBS are encouraged to discover themselves through guidance, support, and skills training from instructors like Annelise Monsen, Kenneth Pedersen, Morten Schmidt, and Niels Olesen.

This approach to education is much different from the educational system found in most universities and throughout grade school, especially in the United States. In many universities and grade schools, students are placed in a structured, step-by-step education plan. It is usually not until at the university level that there is any large divergence between what each student studies. What students learn in universities is often more geared toward their individual career goals, talents, and interests. Although there are countless avenues to pursue in universities, there is still a basic course structure that everyone must follow in order to obtain a degree in a limited amount of fields. With the type of education found at IBS there is a greater emphasis placed on the individual student and his or her talents, desires, and personal career goals. While students are striving for a different occupational or personal goal, they learn similar basic computer skills or carpenter skills in the case of IT and woodshop courses. Rather than gear an individual's education toward one specific career or task, such as word processing or construction of one single product, students at IBS are given the skills they need to discover and design their own career path. In many cases this prepares them for entrepreneurship and a rewarding, interesting career.

There are several specific goals of such an approach. They include: to lead students to develop a grasp of the fundamental concepts in their principal areas of study, to teach students how to gain knowledge and continue their life-long learning process, to form an understanding of the interrelationship between basic knowledge and human need and desire, and most importantly to gain a

mature understanding of themselves. IBS' has been influential in the social and occupational lives of their students by encouraging each individual to pursue his or her dreams.

Through speaking informally with Pedersen, one of the woodshop instructors, we discovered that carpentry skills are taught to visually impaired and sighted individuals in primarily the same manner. The same skills are taught and the same basic carpentry tools are used by both visually impaired people and sighted people. Through the use of specially designed jigs and templates, and audible and tactile comprehensible tools, visually impaired carpenters are capable of producing anything a sighted individual is capable of producing and with the utmost quality.

Stereotypes held against visually impaired trade workers proved to be the biggest problem facing blind and partially sighted individuals in the workforce. The basic skills training acquired through this workshop, although, helps in part to alleviate this common stereotype and misconception. The stereotypical attitude taken by many moronic individuals is that visually impaired trade workers are not capable of producing quality products. This then serves to instill confidence and opens new opportunities for visually impaired individuals though using the hands-on and life skills learned through this carpentry course. This course provides the student with a good understanding of the different tools and fundamental woodworking techniques used in carpentry, and allows the student to unleash some of his or her creative talents. Where and how this knowledge and these skills are utilized or applied is up to the individual. The person may want to work for a larger woodworking corporation, start his or her own small business, or pursue a new hobby in carpentry.

Employing a similar approach, the IT-service department at IBS provides broad-based training in the office, trade, and service fields. This education remains flexible to allow the individual to discover what he or she vocationally desires to do. In this manner IBS can both help the students in self-evaluation and to work toward their occupational dreams. Thus each student takes a different, personal

career path, built on a solid foundation of basic training in office and service skills. Students often can pursue starting their own business or can choose to sell their talents and abilities on the open job market. French lessons were observed from a far at IBS as well. Classes in languages such as French could open doors for a career in language interpretation or other job opportunities.

Once a clear understanding of IBS' programs and approach to vocational training was established, other relevant programs were investigated in order to propose the best possible additions or recommendations to the IBS vocational curriculum. In the subsequent section a number of relevant vocational training programs offered at six selected organizations from around the world are further investigated, analyzed, and compared to IBS' approach to education. The goal of this section is to reveal programs that could be implemented at IBS considering the above mentioned criteria.

4.3 Relevant Programs and Analysis

In order to recommend vocational programs to IBS, all gathered information had to be analyzed and evaluated. The programs below were examined on the basis of the three criteria mentioned previously. In the following section, the reader will find relevant programs that could be useful at IBS as well as an analysis of each.

4.3.1 Perkins School for the Blind

At Perkins, members of the staff are "committed to helping children and adults who are blind, visually impaired, deafblind, or with multiple disabilities reach their greatest possible

independence" (Perkins 2004). The following table is a guide to the programs available at Perkins School for the Blind in Watertown, Massachusetts.

Table 4.3 Perkins School for the Blind

Office	Craft/Trade	Music	Other
Sales	Seatweaving	Orchestra	On and off campus work experience
	Woodworking	Voice	Recipe Preparation
	Metalworking	Music Makers	"To Go" Sandwich/Salad Preparation
	Horticulture Therapy	Chorus	
	Horticulture Work	Chamber Singers	
		Piano	
		Music Braille	
		Handbells	

As shown in the table above, Perkins offers many types of vocational training courses similar to those at IBS. Though both organizations offer many career possibilities in music, Perkins also offers more craft or trade related programs, as well as programs in recipe and food preparation. IBS can utilize the similarities in their mission statement and programs offered at Perkins to learn much from these new programs, such as the aforementioned and in sales, horticulture, and chorus. Programs in horticulture, as well as being vocationally viable, also serve to promote a student's self-esteem and productivity. The satisfaction gained from cultivating or creating something from raw materials or ingredients through hard work, creativity, and determination is often as valuable to the individual as the business prospects of gardening, carpentry, food preparation, or any other trade skill.

Following IBS's broad, but individualized approach to education, a program in horticulture could open endless opportunities for interested students. Similar to the way IT courses are unstructured, geared specifically based to each individual's desires or goals, and oriented to a broad range of skills, horticulture courses could also allow the students to decide their own specific vocational outcome. Based on the desires of each individual student, a course in horticulture could prepare a student for greenhouse work, personal business opportunities through local farmer's markets, and most importantly provided personal satisfaction through the opportunity to enjoy nature and reap the benefits of their own hands-on work.

The success of such a program would directly depend on the amount of student interest in gardening or horticulture and plant life. This program is inherently low-cost, requires fewer additional resources, utilizes a common hands-on approach, and could be coupled with additional courses on biology, plant science, and business management to further broaden the vocational opportunities of students. Although, Resources such as trained instructors, land, and additional tools would be necessary. Community involvement with local farms, botanical gardens, or greenhouses could alleviate a lot of resource problems. Despite its advantages, community involvement does require more outreach personnel and established relations outside of IBS.

Programs in recipe and food preparation follow along similar lines as a program in horticulture. While broad-based in their available vocational avenues, these types of courses are also therapeutic; they allow the student to make something, be creative, and gives them the sense of accomplishment for which we all strive. Cooking, like horticulture, can provide satisfaction, enjoyment, and a vocational opportunity at the same time. This vocation can also be easily implemented through cafeterias, local restaurants, and catering services.

All the aforementioned programs utilize the same open-ended but personalized approach to education as that of IBS. Therefore, since these additional programs are so similar in their approach and execution to those that already exist at IBS, there is, theoretically, a good chance of their success both for IBS and the students. Although financial matters would not be prohibiting, there would need to be additional instructor training to offer these programs to the students. These pros and cons were further analyzed with the help of feedback gathered through the focus group previously mentioned in the methodology section of this report. The results of this focus group in respect to the aforementioned programs are described in the subsequent chapter; Results and Recommendations.

4.3.2 Lighthouse International of New York

One organization that might be a beneficial resource to IBS is Lighthouse International of New York in the United States. Though this organization is not similar to IBS in the careers that are offered, its distinctive approach to education and offered vocational programs could be useful for the students of IBS. Lighthouse International of New York hopes “to help people of all ages with vision impairment achieve independent lives” (Lighthouse International of New York 2004). With this mission statement in mind, Lighthouse International of New York offers programs to help its students become successful in the professional world, achieve personal satisfaction, and give back to their community. The programs available at Lighthouse International of New York can clearly be seen in the table below.

Table 4.4 Lighthouse International of New York

Office	Craft/Trade	Music	Other
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Career Research/Telephone	N/A	Computer Music Notator	Escort- Social Services
Proofreading			Fundraising
Clerical			Human Resources Ass't.
Telemarketing/Phone Research			Math Tutor
Computer fashion			
Scheduler/Receptionist			

Like in many other organizations, due to advances in assistive technology, office position courses are steadily increasing in availability at Lighthouse International of New York. IBS currently only offers four such specific positions. It is, however, hard to categorize specific programs that IBS offers through its IT career path program. This is due to IBS' holistic, individualized, and rather unstructured approach to education which focus on the specific ambitions of each student. Each individual therefore is essentially involved in a unique course.

Since computers are always increasing in use, and with the use of developing assistive technology, more office and computer based positions are becoming available and are opening a new world of opportunities for the students at organizations worldwide. New technological equipment unfortunately can be expensive and additional training would be needed for instructors. Over time students, however, would be skilled to work in many office and computer positions and the success rate of IBS students would benefit from these types of additional programs. Though there are some economic problems to the addition of more office based opportunities, the positive attributes of the programs would far outweigh the financial costs.

In contrast to many IT courses at IBS, these programs offered at Lighthouse International of New York are highly structured and prepare the visually impaired student for one specific office career. They are much different from the open-ended, individually guided courses IBS offers in its IT department. Structured courses can be beneficial to some individuals who are desiring a defined and definite path. Many individuals respond better to a well-structured environment and specific courses in computer fashion and clerical work could benefit the individuals by defining a clear career path for them and introducing them to exactly what what will be required from such a vocation. This type of course does not imply that the students' interests and desires are not taken into account and still incorporate IBS' "inside-out approach". The students' goals and desires are always of utmost importance, even in well-structured programs. These types of programs offer the students a defined path, and a definite career outcome and to some people this structured approach is beneficial and more attainable. Such courses could be easily be coupled with community involvement to improve their success in preparing individuals for the working world.

4.3.3 Lions World Services for the Blind

Lions World Services for the Blind (LWSB) prides itself on the fact that their employees and students are always "working together toward independence." Located in Little Rock, Arkansas, LWSB provides the following programs, which are listed in table 4.5.

Table 4.5 Lions World Services for the Blind

**This training specifically for the Internal Revenue Service of the United States.*

Office	Craft/Trade	Music	Other
Assistive Technology Instructor	Bicycle Assembly and Repair	N/A	Child Care Management
Clerical Skills	Horticulture		
* Contact Collection Representative	Small Engine Repair		
Customer Service			
Medical Transcription			
Microsoft Computer Systems Engineer			
* Service Center Collection			
Representative			
Small Business Management (Kiosks)			
* Taxpayer Service Representative			
Word Processing			

Like Lighthouse International of New York, LWSB offers many office positions and career paths. Though they may not be similar to those of IBS, LWSB offers programs that could be potentially adapted well into the Danish community and culture. One position that might prove

successful in Denmark would be a career in small business management. One prominent business management opportunity would be owning and operating a small Kiosks. The popularity of such Kiosks in Denmark suggests a reasonable success rate for students who are interested in such careers. Though resources for beginning a program such as this would be quite costly, there are many resources which IBS could use to overcome this setback. Through government, community help, and outreach work, IBS could possibly get funding to start a new program such as this.

Another program possibility is bicycle assembly and repair. With the popularity of bicycling in Denmark, this type of service is in constant demand and would be more readily accepted. Not only would it be a theoretically successful career choice, but also would be relatively low cost in starting a program such as this at IBS. Additionally, as another hands-on trade oriented vocation, bicycle repair can be both economically and therapeutically rewarding.

These aforementioned programs are again highly structured and geared toward the mastery of a specific occupation or set of skills. The structure and defined career outcome of programs such as these can be beneficial to some individuals looking for defined and interesting careers in bicycle repair, small business management, and service sector vocations.

Lions World Services for the Blind also utilizes direct community involvement to place students in well known businesses and corporations. One such organization that LWSB is closely involved with is the Internal Revenue Service of the United States (IRS). Through this close communication, LWSB is able to learn what office and service positions are in demand by the IRS and also allows LWSB to work with employers to improve the employment opportunities of individuals and place them in appropriate jobs. IBS could also establish similar relationships with large corporations, government departments, and local businesses to better the odds of visually impaired individuals finding successful employment opportunities. The more employers know about visual

impairment, the more common social prejudices and stereotypes can be alleviated for the blind and partially sighted community.

4.3.4 Braille Without Borders

Braille Without Borders (BWB), located in the Tibet Autonomous Region, shows its commitment to the success of its students through its teaching methods and the programs they offer (described in sections 2.4.2 and 2.4.4). Like IBS, BWB also uses the holistic approach to find the best possible careers for its students. The instructors of BWB are actually trained based on the desires of the students. Without a strict curriculum, the students have endless possibilities and careers to consider and upon which to decide. Since the programs are constantly changing, the following table is a guide to the programs which are available at the current time at Braille Without Borders.

Table 4.6 Braille Without Borders

Office	Craft/Trade	Music	Other
Office Work	Tibetan And Chinese Medical Massage, Pulse Diagnosis, Acupressure	Musical Training: (Individual)	N/A
Accounting	Animal Husbandry: Milk, Yoghurt, Cheese Production		
Basic Computing And Bookkeeping Programs.	Agriculture: Cultivating Vegetable And Grain.		
	Handicrafts: Knitting, Weaving, Pottery, Carpentry, Basket Making.		

Unlike IBS, Braille Without Borders offers many programs in agriculture and animal husbandry. Through casual conversations over coffee, one IBS student detailed her desire to start a pet shop or pet clothing store due to her love of animals. Determining if more students are interested in animals and animal husbandry as well as in agricultural programs can lead IBS to consider possible programs in these fields. Also, since IBS uses the holistic approach, the instructors at IBS can utilize similar teaching methods of BWB. Because instructors at IBS get to know students on an individual basis, they can start surveying students on what types of vocational programs its students would be interested in adding to IBS. Once the students' desires are known, IBS can use its own knowledge to update its existing programs and add new ones depending on the feedback from the students. This technique would open a large array of opportunities that may not have been previously considered.

Programs in animal husbandry and yogurt, cheese, and milk production could also be adapted to Danish society fairly easily, especially in the light of the importance of milk products and farming in Denmark. The resources, however, needed to make such programs possible would be rather outlandish for IBS to take on alone. Therefore community involvement through local farms and production facilities would have to be a must for such a program to be a success. However, these types of programs would promote community involvement and help to further alleviate common stereotypes against blind and partially sighted employees.

4.3.5 Skills Development Center for the Blind

Though there are many vocational training facilities for the blind in Thailand, the Skills Development Center for the Blind (SDCB) stood out due to their attention to vocations involving hands

on work such as carpentry and masonry. These somewhat unique and specialized programs offered at SDCB are listed below in Table 4.7.

Table 4.7 Skills Development Center for the Blind

Office	Craft/Trade	Music	Other
Telephony	Massage Carpentry Masonry Leather Work Rattan Agriculture Blacksmith	N/A	N/A

On several visits to the woodshop at IBS, we witnessed an impressive collection of finely crafted wood products, from games to ingenious devices to remove ones shoes. The students of IBS' workshop pride themselves in their excellent craftsmanship. One instructor, Pedersen, informed us that the students must complete their projects to a more than satisfactory degree because they fear that people who buy the products will accept a poorly constructed craft due to the fact that the maker "is blind so he can do no better" (Pedersen 2004). Not agreeing with this stigma, the students in the workshop felt craftsmanship and pride in their work and showed us how individuals can feel success through their occupation and talents.

Incorporating programs similar to that of The Skills Development Center for the Blind of Thailand, such as in masonry and leather work, can lead to more hands on work that will also instill pride and open up further opportunities to the students of IBS. Most important to SDCB, is its hands-on approach to vocational education. Since SDCB offers primarily only trade occupation courses, IBS could learn much from their approach and offered programs. With many tools and equipment already owned by IBS, more trades could be offered with little expense. The instructors of the woodworking department would have to complete little to no more training to offer extended courses which would allow for the taking up of different hands-on projects along with the crafts already produced by the students. New crafts in conjunction with the ones already being sold would increase the business prospects of the students interested in these types of vocations and broaden their trade opportunities. These hands-on programs, whether vocationally oriented or not, can also be coupled with business management courses to further broaden the entrepreneurship opportunities or visually impaired persons.

4.3.6 Oregon School for the Blind

At Oregon School for the Blind in the United States, the professional staff stands for "the relentless pursuit of each student's success" (Oregon School for the Blind 2004). This mission statement coincides generally with IBS' holistic approach and provides a means to add to the already existing successful programs offered at IBS. There are various opportunities available for blind and partially sighted students at Oregon School for the Blind, they are listed in the following table.

Table 4.8 Oregon School for the Blind

Office	Craft/Trade	Music	Other
*Clerical Medical Office	Weaving	N/A	*Vending Businesses *Delivery Day Care Beauty Salon Restaurant Various Local Business Depending on Student's Desire *Assisting in the Cafeteria or Infirmary

* On-campus positions

IBS is well known for its holistic approach, which focuses on the individual personality, wants, and needs of each student. The Oregon School for the Blind uses this same approach to offer numerous career choices to its students. Through community involvement, OSB provides visually impaired people with ways to be trained in a large variety of local businesses and professions (Section 2.4.2). Denmark, as is well-known, has many small and large businesses. Utilizing the Danish community to coincide with the holistic approach of IBS would allow the students to choose from hundreds of vocations citywide. The students could help to choose their own jobs to ensure employment that is personally interesting and best fits them as an individual. Again through closer community involvement, IBS will be able to diversify its currently offered vocational programs, gain valuable interaction with employers, and provide direct employment opportunities to visually impaired persons. Community outreach programs can also greatly aid in training individuals and can provide

them with the needed experience or education to go on to start their own businesses or work for larger organizations. With help from the community, the possibilities for IBS students are truly endless.

4.3.7 Chapter Summary

Though many different organizations were researched, only some were important to the results of this project. Not all programs could be easily adapted to IBS or Danish society. From the amount of research done, we feel that we have narrowed the search for new programs at IBS down to six well-working organizations. Though IBS might not be able to incorporate all of these organizations' programs, some key suggestions could be used to add to the IBS curriculum. Although all six organizations could prove helpful to IBS, some vocational course ideas and examples, which can be found in the Conclusions and Recommendations section of the report, seem more realistic than others. The results and feedback gathered through focus groups and other personal interactions with visually impaired students has also had a significant influence on these conclusions and recommendations and are presented in the next section of the report. These conclusions and recommendations are tentative and designed only for consideration rather than immediate implementation. Before implementation or contemplating concrete programmatic changes, IBS should consider phone exchanges, official information exchanges, email correspondence, or personal communications with some of the organizations and individuals that offer the following proposed programs.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The primary goal of this project has been to suggest additional vocational training programs for successful implementation at the Institute for the Blind and partially Sighted (IBS) in Copenhagen, Denmark. Throughout the duration of the project, this has been the main focus and objective. In order to propose new programs, the values, the ideals, and the curricula of IBS and other organizations were compared, analyzed and evaluated. The final conclusions and recommendations chosen specifically for IBS from the previous chapter are based on the three main criteria mentioned previously and the feedback gained from the focus group held in Denmark (Please refer to Appendix K for the results of the focus group).

5.1 Overview of Findings

Through executing our methodology, various aspects of IBS' programs and other vocational programs from around the world have become apparent. The improvements and program suggestions are based on these findings. It is imperative to clearly define key aspects of these programs and provide a brief overview or summary in order to more accurately understand why these programs would or would not be applicable at IBS.

The single most important factor of these programs is that they provide blind and partially sighted students with independence, therefore leading to success. Independence and success can be reached through classroom experience, training at home, and learning more about themselves. If independence and success cannot be reached, the program is senseless. Ultimately, the students in

vocational training programs need to obtain and secure job placement in their future. The factors of gaining independence and reaching success created by vocational training opportunities are critical components in proposing new improvements and additional programs to IBS.

A holistic approach to the education of blind and partially sighted students appears to be the most widespread and successful teaching method. Focusing on the individual and learning about what their goals are and how they learn is the best manner in which to go about teaching. Some students may want a more structured program while others like a more broad path course in which to discover more about themselves and what they would like to do in life.

Also, blind or handicapped people may be subjected to societal implications where they live. Therefore, it is important that aspects of each program can be adaptable to Danish culture, traditions, and way of life.

5.2 Recommended Vocational Program Additions to IBS

Based on the results in the previous section and the information supplied to us by the focus group, our project group has arrived at some possible improvements and additional vocational training programs for IBS. These suggestions and programs fit the three main criteria set forth by our project group. This criteria and feedback were essential in ensuring that these programs are feasible and practical for IBS and its students.

The improvements that we suggest for implementation at IBS include additional programs utilizing community involvement for employment and entrepreneurship as well as improvement in structure and organization of the existing and future programs.

The main purpose of this project was to propose additional vocational training programs for utilization at IBS. Through collecting, researching, and analyzing data concerning vocational training, our project group has decided on proposing programs in: horticulture, food preparation, entrepreneurship, language interpretation, and animal husbandry.

Through the focus group, we concluded that the other vocations from the results section either did not meet the main criteria, were not feasible, or the students felt that the specific vocation would not be of interest to any of the students at IBS. However, some interest was shown in the vocations mentioned above. The students in the focus group felt that vocations involving horticulture, food preparation and animal husbandry were feasible ideas that would also be affordable to their institution through community interaction or government involvement. In relation to food preparation, instead of IBS hiring an outside company to provide food and manage the Institute's cafeteria, students interested in food preparation and business management could run it as part of their training. At IBS, language lessons are sometimes given. Studying languages and language interpretation could lead to various career paths. Examples of this would be careers in travel agencies, government, and tourism. Overall, however, the area that held the biggest interests was in that of entrepreneurship.

Though IBS does offer some community involvement and entrepreneurship, the students felt that the program could be increased to offer more career paths. One student is currently performing two years of her training in a community supermarket. The popularity of kiosks here in Denmark led us to believe setting up and running kiosks would be a possibility. One could even be setup inside or near IBS. Though IBS offers some programs related to this, very few similar programs that offer community outreach currently exist. Using the Oregon School for the Blind as a reference, IBS could improve this part of its program by interacting more with the community and offering an endless supply of vocational possibilities (discussed in section 2.4.2 and 4.3.6).

Though new programs may seem exciting and important, the students have other concerns with IBS' current programs. As well as adding new vocational training programs to IBS' curriculum, some students felt that the already existing programs need to be updated. Though the students like being their own educational boss by making their own career paths, some feel that the current programs could be improved by being more structured and organized. One student suggested having a timeline in which each step of the educational process is well known by both the instructor and the student. However, every student is unique so completely changing all the vocational programs into more structured programs would not be sufficient. Consistent with IBS' holistic approach, a possible suggestion would be to give students the choice of the structure and organization of their own training. One-on-one teacher-student involvement could allow the student and the teacher to formulate the best type of structure, whether it is non-constrictive or time lined to the last detail. This would provide the best possible vocational program for each individual student. A structured program also allows for the individual to visualize a more direct vocational outcome. Community involvement further aids this by providing businesses, organizations, and occupational opportunities in which a student could become trained in or employed.

The previous paragraphs of this section detail ways in which our group and some students feel that IBS can improve their vocational training programs. Through revising existing programs and making additions to the current course offerings, IBS can improve its institution, learn much about the programs offered at other organizations, facilitate more international collaboration, and ensure its success as well as the success of its students.

5.3 Chapter Summary

Throughout the course of this report, various programs and vocational training for the blind and partially sighted community have been researched and investigated. The programs or suggestions that we feel would make the greatest impact include: programs with more community involvement, utilizing entrepreneurship programs to setup kiosks, language interpretation programs, and food preparation experience and management at the IBS facility. The conclusions and recommendations in the above section were made possible by following through on the indicated methodologies appropriate for this project. Our hope is that these suggestions and recommendations are carefully considered and discussed for possible implementation at IBS if seen fit.

6.0 APPENDICES SECTION

The following section is supplementary material referenced previously in our report. This section includes interviews, focus group answers, etc.

Appendix A: Blindness and its Impacts

In order to understand and evaluate vocational programs for the blind and partially sighted, it is essential to understand what it means to be blind. There are several facts and statistics that clearly define blindness. Blindness has various effects that the average person may not consider. Being informed about background information on the topic that one is researching is very important. The following sections include information about blindness and its effects.

1.0 What does being blind mean?

Blindness is a physical, psychological, and sociological phenomenon. The legal, medical, or physical definition of blindness in the United States is: "central visual acuity of 20/200 or less in the better eye after correction; or visual acuity of more than 20/200 if there is a field defect in which the widest diameter of the visual field subtends an angle distance no greater than 20 degrees" (Tuttle 10).

This precise measurement of acuity, however, is not a guideline in the English definition of blindness. and is referred to in terms of a subject's inability to learn or to work by the use of sighted methods (Tuttle 12). In the above definition "after correction" typically means with one's glasses on and visual acuity refers to the capacity for seeing objects distinctly and in detail. The fraction used to define blindness is referred to as a Snellen fraction. In a Snellen fraction the first number represents

the test distance, and the second number represents the distance that the average eye can see the letters on a certain line of the eye chart (Tuttle 13). So, 20/20 or normal vision means that the eye being tested can read a certain size letter when it is 20 feet away. If a person sees 20/40, at 20 feet from the chart that person can read letters that a person with 20/20 vision could read from 40 feet away. If 20/20 is considered 100% visual efficiency, 20/40 visual acuity is around 85% efficient. Partially sighted persons can be categorized as those individuals whose visual acuity with best correction in the better eye ranges between 20/70 and 20/200 (Tuttle 12).

1.1 Limitations and Implications of Blindness

The limitations and consequential physical, psychological, and sociological implications that visual disabilities place on a person, directly affect a person's ability to function in the real world (Tuttle 5). Since the focus of this project is on the vocational training of the blind and partially sighted, it is imperative to fully understand and realize these affects and limitations experienced by many blind or partially sighted people before effective education and vocational training can be achieved or devised.

Blindness or any visual handicap impacts a person's life in countless ways. Some prominent examples of apparent limitations blindness imposes are limitations in the range and variety of experiences, mobility, and control of the environment around one's self (Tuttle 18). Blindness can affect all areas of life including personal and home management, mobility and travel, reading and writing, and recreation. However, these problems can be compensated for by various means. As a general rule the greater the visual loss, the more extensive and different are the coping techniques required for successful accommodation to visual impairment (Tuttle 10). These implications and limitations in turn can affect the sociological and psychological wellness of a person.

1.1.1 Implications of Blindness on Personal and Home Management

A common concern among the blind and partially sighted individuals is developing adequate competence and most importantly independence in personal and home management skills. These skills include, but are not limited to, personal care and grooming, dressing, eating, care of clothing, cleaning, cooking, sewing, and home repairs (Tuttle 21). Whether blind from birth or later in life, the responsibility of teaching and guiding these learning experiences is in the hands of the parents, teachers, and rehabilitation counselors. The visually impaired are naturally limited in their ability to conceive and interpret information because visual observation and imitation are almost never an option (Tuttle 21).

These skills essentially are obstacles to the independence of a blind or partially sighted individual unless specifically taught and mastered. Mastery of common daily chores and overcoming obstacles provides a sense of accomplishment and satisfaction for an independent visually handicapped person. Consequently, a heightened sense of self-worth and self-esteem can come about from being able to provide to the home and be independent (Tuttle 22). This self-worth is very important to the success of the individual.

1.1.2 Implications of Blindness on Travel and Mobility

One very significant result of blindness is an altered ability to travel, perceive the social and physical environment, and have some control over hazardous situations in that environment. A blind or partially sighted person must be able to both maintain a mental map of their orientation in an environment and effectively and safely travel through that environment (Tuttle 23). This skill involves interacting with an environment, exploring, and utilization of other powerful senses such as touch or feel and hearing.

Four primary modes of mobility for a blind or visually handicapped person exist: the use of sighted guide or person to lead and direct, the use of a cane as an independent mode of travel to feel obstacles and detect one's surroundings, the use of a guide dog to lead and protect, and the use of electronic devices designed to provide auditory and sensory feedback of one's surroundings (Tuttle 23-29). There exists a strong relationship between one's self-esteem and one's ability to travel independently and comfortably. Improved motivation toward other tasks and a greater sense of self-determination is a possible result of acquiring independent mobility.

1.1.3 Implications of Blindness on Reading and Writing

The written word is all around us, from the newspaper to street signs to cereal boxes. The visually impaired have access to a limited portion of this tremendous library of written material through the means of Braille, auditory recordings, and various expensive electronic devices. Braille, while slow at 100 words-per-minute (wpm), is still the most widely accepted and used system for reading and writing material for the blind (Tuttle 29). Recordings, while useful and a little faster at about 200 wpm, pose difficulties when it comes to studying, skimming, or referencing material (Tuttle 30). Both of these methods also require an intermediary for either the translation of printed word into Braille, or with knowledge of the format and operation of the recording auditory equipment used. Partially sighted persons can use traditional methods of magnifying printed words without the need for an intermediary (Tuttle 30). Available electronic devices include computer programs that read aloud printed material fed into a scanning device and Braille coders capable of storing and displaying lines of Braille on electronically activated metal pins (Tuttle 30).

The time lag involved in the preparation of material for the blind poses problems for the visually impaired and for anyone trying to remain current or up to date on a topic or specialized field.

This is often necessary at higher levels of occupation. Although blind or partially sighted persons can always employ someone to read for them, this can infringe on their privacy when it comes to personal letters and documents. Thus taking the time to learn Braille and use it in correspondence between a visually impaired or blind person is a symbol of respect for that person and serves to build his or her self-esteem (Tuttle 32).

1.1.4 Implications on Recreation

Leisure activities are ways for people to indulge in the pleasures of life, explore hobbies, socialize and engage in a common activity, and experience feelings of mastery, success, and achievement. This is true for both sighted and visually impaired people. Since they lack the opportunity for visual observation and imitation, blind people without proper training and education do not realize their potential for personal enjoyment (Tuttle 36). Activities can include a broad range of hobbies such as collecting, art, games, sports, and even mountain climbing. Recently blinded people may become bored and think they have nothing to do, but in many cases they can still have fun with former forms of entertainment such as dancing, movies, and concerts (Tuttle 40). One of the most healing and rewarding aspects of recreational activities is the social interaction that they often provide. Blind and sighted individuals can interact together, providing self-acceptance and improved confidence.

Appendix B: Effects of Blindness

Blindness is a worldwide problem. Not only do the blind and visually impaired lack physical vision, but sometimes this loss creates other problems. In some cases, psychosocial, sociological, and psychological troubles are the result.

1.0 Psychosocial Implications

A person's self-esteem is directly related to their amount of independence in personal and home management, travel, reading and writing, vocation, and recreation. Independence can be obtained through training in the use of adaptive aids, devices, and techniques. There is no personality unique to a blind person, because the difference of the blind lies completely in their lack of visual experience. There are certain behavior limitations because of this. Visually impaired individuals represent a small number in any community and this accentuates their differences. Since they have little opportunity to interact with other blind people, there are some direct social consequences of blindness. It is however important to note that these are broad generalizations and not common to every blind or partially sighted person.

1.1 Sociological Implications

Typically, visually impaired children and young adults tend to exhibit immature and rather self-centered behavior (Tuttle 39). Because of their inability to view the world as a sighted individual does, visually impaired persons often can end up interested primarily in their own needs or associations (Tuttle 47). This can often lead to self-consciousness. A person blind from birth also has no way of telling when they can or cannot be seen, while, a newly blind person often gets the feeling the he or she

is being watched. This is because they are seldom able to anonymously blend into the crowd. Other sociological implications that often occur include isolation and withdrawal (Tuttle 40-41). Choosing a companion for conversation is not always easy, and knowing when someone is talking to him or her is also very difficult.

Sometimes these feelings of difference and isolation overwhelm a person and they physically withdraw themselves from society. Apathy and dependency are also commonly experienced by many blind and partially sighted individuals. Unable to perceive the "normal" conditions for socially acceptable and appropriate behavior, a visually impaired individual often thinks that to do nothing at all is better than to something wrong. Stereotypical attitudes held by others about blindness often can have a restrictive affect on a visually impaired person's self-esteem and attitude (Tuttle 45). The attitudes of some determine the behavior of others, which in turn shapes the self-concepts of the blind, and thus shape their behavior (Tuttle 47). It is in fact a vicious cycle. There is a strong interrelationship between attitude, behavior, and self-concept. If visually impaired individuals perceive these differences and stereotypes as too great to surmount, they often resist and fail to assimilate into society.

1.2 Psychological Implications

Important psychological implications include the learning of concept, abilities and school achievement, personality traits, and the process of adjusting to blindness (Tuttle 49). For most sighted people, visualization plays a major role in the conceptualization process. There are certain cognitive functions that cannot be explained to a person blind from birth such as the difference between green and red (Hardy 158). If an individual had normal vision up until middle life and then due either to an accident or medical condition loses all or most of his eyesight, what blindness means to that person

depends on what it meant to him when he was sighted (Hardy 159). This inevitably influences the adjustment process.

A visually disabled person must be able to explore and interact with their environment to begin to conceptualize the world around them. Relating to achievements and abilities, blind children and adults have little difficulty with the learning involved in achievement measures, but lag behind sighted others in abstract reasoning because of restricted availability of interaction with one's environment, problem solving and decision making (Tuttle 53). Visually impaired child must rely on primarily their tactile and acoustic senses. There is as a result often a fear of the unknown.

One's personality traits may also become more evident because of blindness. For example, a more dependent person is more likely to use blindness to explain a greater dependency, while someone who is by nature independent may blame blindness for its imposed restrictions. There is no unique psychology of the blind; rather personal, social, and emotional needs of a person are impacted by blindness.

Appendix C: Talking Chip Technology IQP Project (2002)

The “Talking Chip Technology IQP Project” from 2002 contains statistics and facts that are useful in pursuing this project, especially concerning the worldwide research on vocational training of the blind and partially sighted. This type of information is essential. Without addressing the main focus of the project, blindness, there would not be initial background or basis of knowledge on the subject. Previously completed works such as this IQP can serve as a guide in aiding our group in the researching process.

Through this report, various pieces of background information were found about blindness and visual impairment. A person is considered blind when central visual acuity does not exceed 20/200 in the better eye with correcting lenses or an individual whose visual acuity is greater than 20/200 but is accompanied by a “limiter,” in the fields of vision such that the widest diameter of visual field subtends an angle no greater than 20 degrees (Clemons and Iqbal 2). In simpler terms, a person who is blind sees objects 20 feet away as if they were 200 feet away. There were specific Denmark related statistics throughout the paper as well.

It has been calculated that in the year 2002, between 20,000 and 25,000 people in Denmark suffered from blindness or uncorrectable visual impairment (Danish Association of the Blind 2004). This figure is out of an approximate 5 million citizens. In addition, three to four people in Denmark lose their sight each day (Danish Association of the Blind 2004). In some of these cases, these vision problems could have been prevented. Lack of proper eye care and a general misunderstanding of severity and diseases are the common causes of visual problems (Clemons and Iqbal 2). People in the older age ranges can experience age related complications, while others struggle with retinal disorders

such as diabetes or glaucoma (Clemons and Iqbal 2). The statistics and facts that were collected from the Talking Chip Technology IQP from 2002 served as a source of information about facts and issues related to blindness.

Appendix D: Interview with Bill Scully

Bill Scully is a staff member at the Massachusetts Commission for the Blind. The Office is located in Worcester, Massachusetts. He was kind enough to speak to our project group about this organization and their work. The interview took place on Wednesday February 19th, 2004 from 10am to 11am. Below is the interview that was conducted.

1) What is the primary goal of your organization concerning the vocational training of the blind?

To use what remaining vision they have and work with it. We also help the blind and partially sighted in talking with employers. We function under the Rehabilitation Act.

How our organization works is, doctors have to register all their blind patients. We keep a record and then provide them with necessary information to contact us.

2) What types of vocational training does your organization offer?

We are part of a nationwide system in which people apply for our services. When accepted, we make a plan for the specific individual.

We have blind counselors that work for us and serve as role models to the clients. They are provided with clerical support and drivers to visit the homes of the clients to meet with them. This serves as a type of road operation for us.

These visits inform the blind person of their vocational options and start the process of finding them a job to commence. We offer job placement services.

3) What kinds of jobs do most visually impaired people find after their vocational training?

There is not a typical field of work. In the past, broadcasting was big. Now jobs are more geared toward computers and technology so opportunities are changing. Many blind and partially sighted people like to go into human services or teaching so they can help other people like they have been helped.

We stress job placement and job retention. When someone is losing their vision it is important for them to keep working and that their needs are accommodated for.

4) Does your organization offer any technology training courses or any technology assistive devices?

We have many devices that allow us to assist the blind. Some of them include: closed circuit televisions that allow one to adjust the magnification, ZoomText (enlarges print on the computer screen), and JAWS (a screen reader).

5) What improvements do you think could be made to the services and training provided to the blind and visually impaired?

In the school systems there is too much emphasis put on the academic side and not enough on the community and social side.

6) What teaching methods/philosophies are used to accommodate for blindness?

Recording devices, Braille, and large text and also very small classroom size.

7) What kind of collaboration does your organization have with other agencies or organizations for the blind?

We work with the Carroll Center in Newton, Massachusetts. They have more rehabilitative related programs. This includes people that are losing their vision and are adjusting to blindness. They teach them how to use a cane, eat better, and manage their clothing. These adjustment courses are 12 weeks long and cost \$1,300. The Carroll Center also has a technology center in which they teach ZoomText and JAWS. Basic interview and resume skills are offered as well. Training programs for medical transcription and office skills are popular there. After clients are done at the Carroll Center, they come to us for our services.

8) What do you think of a possible program to train blind persons as language interpreters?

Yes, it would be helpful in various professions. One such being in court systems, hospitals, and doctor's offices.

9) Do you have any suggestions for things you would like seen in programs for the blind in future?

There should be more career-oriented programs.

Appendix E: Interview with Sandra Boris-Berkowitz

Sandra Boris-Berkowitz works as personnel at Perkins School for the Blind. Perkins is located in Watertown, Massachusetts. She was kind enough to speak to our project group about Perkins and their programs. The interview took place on Friday February 20th, 2004. Below is the interview that was conducted.

1) What is the primary goal of your organization concerning the vocational training of the blind?

Perkins looks at each student as an individual and caters to their personal needs.

2) What types of vocational training does your organization offer?

There are various steps in this process. First the student comes to Perkins for a weekend in the spring for vocational testing. Then starting in the July we run a five-week vocational training program. Each week out of then seven days, 4 days a week they learn about independent living, the program, and go to work. These jobs can be paid o volunteer. One day a week they research and learn about vocational opportunities through investigating and through speakers that visit Perkins.

3) What is the most important aspect of the vocational training process?

Finding the student's strengths, skills, and interests.

4) What kinds of skills training does the Perkins offer?

We offer services in mobility, and low vision.

5) Does your organization offer any technology training courses or any technology assistive devices?

Yes, we offer both.

6) Do you have any recommendations on how to go about making a presentation to a blind audience?

The most important thing you must do is to make sure all written material is provided in Braille and large print. The Power Point presentation should be in large print as well. During the presentation make sure the audience knows what is going on and describe things on the screen. Have your presentation available on tape so you can pass the tapes out to the audience so they can take them home with them.

7) In what ways is your organization dealing with the severe unemployment rate of 70% for blind and visually impaired Americans?

All of the programs and services offered by Perkins assist in combating the severe unemployment rates experienced by the blind and partially sighted. Educating the public would help alleviate this problem as well. Many employers are afraid to hire blind people or they think they will hurt themselves. It is also hard for the blind to get transportation to and from their employment. All of these factors cause problems and result in unemployment. Many times the jobs the blind and partially sighted get are only minimum wage. Some do not feel it is worth it

for all the problems associated with it so they decide to collect Social Security instead because it is almost the same amount of money with fewer complications.

8) What kind of collaboration does your organization have with other agencies or organizations for the blind?

When students are in their early teens, we work with their funding source and also their hometown commission for the blind (or the one closest to them).

9) What do you think of a possible program to train blind persons as language interpreters?

Yes, I think it is a real possibility as long as the person has the required skills to do so.

Appendix F: Acronyms

ACB= American Council for the Blind

BWB= Braille Without Borders

CLB= Columbia Lighthouse for the Blind

DAB= Danish Association of the Blind

HKSB = Hong Kong Society for the Blind

IBS = Institute for the Blind and partially Sighted

IQP = Interactive Qualifying Project

LSC = Living Skills Center of the Visually Impaired of California

LWSB = Lions World Services for the Blind

MCB = Massachusetts Commission for the Blind

NAB = National Association for the Blind of India

NIB = National Industries for the Blind

NIVH = National Institute for the Visually Handicapped

NS = Natal Society for the blind

OSB = Oregon School for the Blind

RVIB = Royal Victorian Institute for the Blind

WPI = Worcester Polytechnic Institute

Appendix G: The Name Lighthouse

The name of “lighthouse”, as shown in the literature review section of this report, is in common use throughout the United States with over one hundred agencies choosing this familiar name. However, while each agency has similar goals of facilitating the independence and betterment of the live of blind and partially sighted individuals, the agencies under the common name of “lighthouses” are independent and distinct organizations. These organizations shed light and hope upon the lives of visually impaired individuals throughout the United States and abroad. Just as actual lighthouses serve as a guide to mariners in the dark of night, these universally established organizations provide the guidance and skill training necessary for blind and visually impaired persons to navigate through life independently.

Appendix H: Criteria for recommending programs to IBS

When proposing additional vocational training programs and making improvement suggestions for IBS, it was necessary to establish a set of criteria in which to evaluate the programs.

Below is the set of criteria used in this project.

- 1) The proposed program could be easily adapted to Danish culture
- 2) Success (i.e. number of job placements) is obtainable for both the student as well as IBS through this program
- 3) The proposed program coincides with IBS' holistic approach

Appendix I: List of Organizations Researched

- 1) Blind Industries and Services of Maryland (U.S.)
- 2) Braille without Borders (Tibet)
- 3) Columbia Lighthouse for the Blind (U.S.)
- 4) Dallas Lighthouse (U.S.)
- 5) Danish Association of the Blind (Denmark)
- 6) Ephpheta Foundation for the Blind (Philippines)
- 7) Hong Kong Society for the Blind (China)
- 8) Light for the Blind (Thailand)
- 9) Lighthouse International of New York (U.S.)
- 10) Lions World Services for the Blind (U.S.)
- 11) Living Skills Center of the Visually Impaired of California (U.S.)
- 12) Massachusetts Commission for the Blind (U.S.)
- 13) Miami Lighthouse (U.S.)
- 14) Natal Society for the Blind (Africa)
- 15) National Industries for the Blind (U.S.)
- 16) Oregon School for the Blind (U.S.)
- 17) Perkins School for the Blind (U.S.)
- 18) Royal Victorian Institute for the Blind (U.S.)
- 19) School for the Visually Impaired, University of Tsukuba (Japan)
- 20) Seattle Lighthouse (U.S.)
- 21) South African National Council for the Blind (South Africa)
- 22) The American Council for the Blind (U.S.)
- 23) The Carroll Center (U.S.)
- 24) The National Association for the Blind of India (India)
- 25) The National Institute for the Visually Handicapped (India)
- 26) The Samphram Rehabilitation and Vocational Training Center for the Blind (Thailand)
- 27) The Skills Development Center for the Blind (Thailand)

Appendix J: Interview with Niels Olesen

Niels Olesen is a student and a teacher at the Institute for the Blind and partially Sighted (IBS) in Copenhagen, Denmark. Niels has in recent years lost his sight. He was kind enough to speak to our project group about IBS, teaching blind students, and being blind. This interview took place on Thursday April 15th, 2004 at 9 am. Below is a transcription of the interview that was conducted.

1) How were you trained to teach blind and partially sighted students?

Instructors are trained to teach different types of students. There are different methods for teaching each group. For example, some groups may include: people that have been blind all their lives, and then people that go blind later on in life. Most blind students are over 15 years of age.

2) What are essential teaching methods when teaching blind and partially sighted students?

All educational components are taught in the classroom. People here are mobile and are able to get here using their canes, buses, and trains. Most training takes place in the student's home. This training is in the form of home lessons and outreach. Blind students are very attentive, and instruction needs to be more individualized holistic

Here at IBS we have a holistic approach where we look at various aspects for the individual. Some things we might look at include what they like, how they do things, what motivates them, what their personal history is. Our approach is deliberate. It is not a step-by-step process.

3) Do you have any contacts or resources that could help us in finding more information about teaching methods?

There is a teacher here that teaches the foreign students. I will ask Annelise to put you in contact with that person.

4) Are there any areas that you think we should look into or research that need improvement?

IBS is currently trying to change the structure of our organization. I think there should be more cooperation between the different areas of study and different departments of IBS

5) What type of cultural implications have you experienced in your teaching career?

The language barrier.

6) What is the most important part of your education?

The most important thing to learn is to be independent. The hardest thing for the blind is just getting them out of their homes and into society. Blind people need to learn how to travel, ask questions, and help themselves.

7) Do you feel that society treats you differently because you are blind?

Yes, I do

Appendix K: Focus Group

The focus group component of our methodology was completed on April 27th from 10:15am-11am. The group was made up of four people. Niels Olesen was a participant in our focus group; he is an instructor at IBS. The other three participants were IBS students: they were Steffen Petersen, Martin Hansen, and Henriette Gorrison. Below is the discussion that took place.

1) What do you feel are the strong areas of IBS' vocational programs?

- **Steffen:** IBS makes career training and programs easily understandable. Their methods make it easy for students to attain success.
- **Niels:** Each program for each student is specially designed.
- **Martin:** There are various options in how to form your education.
- **Henriette:** I get to be the boss of my own education and get anything I want out of it.

2) What areas could be improved here at IBS?

- **Steffen:** Our education could be more structured and organized. Maybe have a timeline for the education.
- **Niels:** Not too much. The price to come here and learn at this school is very high; it is hard for people to afford sometimes. Maybe reduce the price somehow.
- **Martin:** NA (Has only studying at IBS for 2 weeks)
- **Henriette:** NA (Has only been studying at IBS for 2 weeks)

3) Are there certain career paths or programs that you would like to see at IBS that do not already exist?

- **Steffen:** No.
- **Niels:** No.
- **Martin:** No.
- **Henriette:** No.

4) Do you think there would be any interest in the following programs:

1. **Sales:** Yes, there are already some programs here that have begun that involve sales.
2. **Horticulture:** There is interest, but no program here for it yet. There is one at the Danish Association for the Blind.
3. **Food Preparation:** There is an interest in that. One student, Maria, is currently working at a supermarket. She is being trained for two years there. IBS helped set it up.
4. **Small Business Management (Kiosks):** Yes, there is a large interest in this field. Martin and Henriette both want to start their own businesses. Martin wants to go into software sales and hopes to work at IBM. Henriette wants to open a pet sales shop and use the Internet to sell clothes she has made for people's pets.
5. **Bicycle Assembly and Repair:** No, there is not a large market for that. There has been in the past, but not anymore.
6. **Animals and Animal Husbandry:** There is an interest.
7. **Blacksmith:** No, too dangerous for blind people.
8. **Masonry:** No, too dangerous for blind people.
9. **Community Involvement:** It occurs here a little (ex. Maria). There is an interest.

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