An Investigation of the capacity of academic library services to serve users with disabilities: a case study of a regional service of The Alma Jordan Library, The University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies

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Abstract

This study investigates the effectiveness of academic library services provided to students with disabilities; to discuss the main barriers to social and information access to persons with disabilities; to highlight basic problems regarding services and technological features; to identify potential training methods for staff to deal with students with disabilities and to make recommendations for improvements to the services for persons with disabilities. This study is an investigation of the topic through the specific case of at The Alma Jordan Library (AJL), University of the West Indies, St. Augustine. For purposes of this paper the term “persons with disabilities” was used to encapsulate all types of disabilities as well as to ensure that there aren’t negative stereotypes about the subject matter. The case study approach was adopted to effectively examine the issues identified in the literature review. The mixed methods approach to data collection was adopted, including a student and staff survey and interviews to gain the librarian’s and management perspective. A literature review established the study within the context of relevant research. The empirical results reflected aspects of the previous studies, and also demonstrated that the library has significant usage levels with an important role in the provision of services to students with disabilities. Recommendations were made for improving library services to bridge these gaps, The AJL and SLDD can work in tandem for problem solving as well as further research.
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Abbreviations

ADA - American Disabilities Act
AJL – Alma Jordan Library
ALA - American Library Association
ASCLA - Association of Specialized and Cooperative Library Agencies
ASDLU – Academic Support Disabilities Liaison Unit
ATL – Assistive Technology Lab
COSTAATT - College of Science, Technology and Applied Arts of Trinidad and Tobago
CRPD- Convention on the Rights of Persons with Disabilities
DDA- Disability Discrimination Act
ICTA- Imperial College of Tropical Agriculture
IFLA – International Federation of Library Association
IT- Information Technology
JAWS - Job Access With Speech
LISA- Library and Information Science Abstracts
LISTA- Library Information Science and Technology Abstracts
NALIS- National Library of Trinidad and Tobago
NODES- Network of Disabilities Education and Sensitization
OCLC- Online Computer Library Center
OPAC- Online Public Access Catalogue
SLDD – Student Life and Development Department
UN- United Nations
UTT- University of Trinidad and Tobago
UWI- The University of the West Indies
**Glossary**

**Disability** - total or partial loss of a bodily function; total of partial loss of a part of the body; malfunction of a part of the body including mental or psychological disease or disorder; or malformation or disfigurement of part of the body (Trinidad and Tobago, Equal Opportunity Act, 2000)

**Impairment** - a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while participation restriction is a problem experienced by an individual in involvement in life situations (Who Health Organization)

**Differently-abled** - this term was first introduced in the 1980s as an alternative to “disabled” or handicapped” because it gave a positive message and so avoid discrimination towards people with disabilities. The term was never heavily used and has been criticized as both euphemistic and condescending.

**Assistive technology** - computer aids that enable persons with disabilities to perform everyday tasks at home, at school, at work, and at play. These technologies have levelled the playing field, and opened up many avenues of opportunity to provide people with disabilities a fighting chance for educational and career development, as well as full integration into society and the economy.¹

**Visual Impairment** - acuity of 20/70 or worse in the better eye with best correction or a total field of 140 degrees. It includes both low vision and blindness. (American Foundation of Blindness)

**Low vision** - visual acuity of less than 6/18 but equal to or better than 3/60 or corresponding visual field loss to less than 20 degrees. It is a loss of vision that may be severe enough to hinder an individual ability to complete daily activities. (American Foundation of Blindness)

**Blindness** - the visual acuity of less than 3/60, or a corresponding visual field less than 10 degrees, in the better eye with the best possible correction. (World Health Organization)

¹http://www.torresfoundation.org/tt/products.php
**Legal Blindness**- a level of vision loss that has been legally defined to determine eligibility for benefits. It refers to a central visual acuity of 20/200 or less in the better eye with the best possible correction, and/or a visual field of 20 degrees or less. These individuals still have some useable vision. (American Foundation for Blindness)

**Hearing impairment, or hearing loss**, occurs when individuals lose part or all of their ability to hear.

**Physically impaired**- individuals who have the absence, paralysis or other impairment of some portion of their body.
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Chapter 1: Introduction

1.1 Background to the research case

Library development patterns in the English-speaking Caribbean can be described as uneven since the Caribbean (all lands washed by the Caribbean Sea and the Gulf of Mexico) is so geographically dispersed, and demographically diverse, with countries strongly influenced and shaped by different historical, political and cultural affiliations. The academic libraries in the Caribbean are considered the “intellectual hub of the academic communities they serve, devoted to developing core collections to support the teaching, learning and research activities of their respective faculties and specialized schools” (Peltier-Davis, 2011, p. 7).

The University of the West Indies (UWI), which was established in 1948 at the Mona Campus, Jamaica, as a College of the University of London, achieved full university status in 1962. The Mona Campus in Jamaica; St. Augustine Campus in Trinidad and Tobago; Cave Hill Campus in Barbados; and the Open Campus, which provides distance teaching to students in thirteen other Caribbean islands, comprise the four campuses. According to its 2013-2014 statistics, UWI has a total student population of more than 47,000 graduates, and a staff total of 5,800 of which 1,800 are academics.

The St. Augustine Campus of The University of the West Indies was established in 1960 when the Imperial College of Tropical Agriculture (ICTA) merged with the University College of the West Indies (Jamaica) to become the Faculty of Agriculture, and became its second campus with a mandate to fulfil the needs of the region. The ICTA collection became the core collection of the St. Augustine Campus Library. The student population at the St. Augustine Campus totals 18,000 (5,500 graduate students and 12,500 undergraduate students).
The Alma Jordan Library (AJL) at the St. Augustine Campus is the largest of the Campus Libraries with a collection of 419,915 monographs, 50,500 bound volumes of serials, 100 printed periodicals, and accesses 209 electronic databases, 55,215 electronic journals, and more than 30,933 electronic books in various disciplines. It is the source of research needs for users at the local, regional and international levels. The range of libraries under the purview of the Campus Libraries include Medical Sciences, with a stock of 34,850 books, 536 current journals, 2 newspaper subscriptions, 6,900 bound serial volumes, electronic resources, and over 1,100 multimedia items; the School of Education, with a collection 25,000 monographs; the Institute of International Relations, with a collection of 26,000 monographs; and the Arthur Lok Jack Graduate School of Business with a collection of 1,000 monographs. Figure 1 presents the number of monographs at the Campus Libraries and features The AJL as the main intellectual nucleus of the University in comparison to the other Campus Libraries.

![Graph showing the number of monographs at each Campus Library]

*Figure 1. The number of monographs of each Campus Libraries*
The World Disability Report, 2014, states that “disability may not be an obstacle to success” (p. ix). The Report further states, “governments throughout the world can no longer overlook the hundreds of millions of people with disabilities who are denied access to health, rehabilitation, support, education and employment and never get the chance to shine” (p. 3). Thus, Samson (2011) observed that “persons with disabilities are in a minority group whose perspectives and needs are an important part of a diverse society” (p. 261). Students as well as staff with disabilities are a robust and growing population on academic campuses and the largest minority group on any given campus (Samson, 2011).

The International Federation of Library Association’s (IFLA) and Institutions, Professional Report, No. 89, edited by Brigitta Irvall and GydaSkat Nielsen, *Access to libraries for persons with disabilities- Checklist* developed by IFLA Standing Committee of Libraries Serving Disadvantaged Persons (LSDP), suggests that:

“In many countries all over the world, access for patrons with disabilities to use libraries is not yet available or even expected. In order to provide equal opportunities for all library users, it is necessary to look with the eyes of these patron groups at the physical condition of library buildings, as well as library services and programs” (Irvall & Nielsen, 2005, p. 4).

The Report upholds that “everybody should be able to use the libraries of a country” (Irvall et al., 2005, p. 5).

The American Library Association’s (ALA’s) Library Services for People with Disabilities policy outlines that “disabilities cause many personal challenges. In addition, many people with disabilities face economic inequity, illiteracy, cultural isolation and discrimination in education, employment and the broad range of societal activities” (American Special and Collective Library Association (ASCLA) 2001, para. 2). The Policy advocates that:
libraries play a catalytic role in the lives of people with disabilities by facilitating their full participation in society. Libraries should use strategies based upon the principles of universal design to ensure that library policy, resources and services meet the needs of all people (American Special and Collective Library Association (ASCLA, 2001, para., 3).

In Trinidad and Tobago, the National Policy on Persons with Disabilities, approved in December 2005, articulates a holistic framework for achieving the goals of social inclusion and equality of opportunity for all citizens with disabilities. The Policy emphasizes that persons with disabilities are agents of their own destiny and equal citizens of the country. According to the 2000 Census Report in Trinidad and Tobago, 4.1% of the total population represent persons with disabilities. These individuals have similar responsibilities as other citizens and should enjoy equal access to the services available to all citizens.

The Trinidad and Tobago Equal Opportunity Act, 2000, reaffirms that “an educational establishment shall not discriminate against a student by denying or limiting the student’s access to any benefits, facilities or services provided by the educational establishment” (Laws of Trinidad and Tobago, p. 14). In an address by the Minister of the People and Social Development in 2013, the Government of Trinidad and Tobago re-emphasised from its National Policy of Persons with Disabilities, that the differently-abled are agents of their own destiny of equal rights and should enjoy equal access to the services available to each and every citizen. The former President of the Disabled Peoples’ International (Trinidad and Tobago Chapter), George Daniel, in a workshop held on June 29th, 2007 hosted by the Caribbean and International Social Work Educators also emphasised the need for more aggressive approaches to ensure a place for disability research in Trinidad and Tobago and the wider Caribbean.
1.2 Research Problem

At The UWI, St. Augustine Campus, The AJL plays a pivotal role in providing information and services for academic success. It is therefore essential that the AJL provides equitable access to facilities and services for all students, including those with disabilities. Notwithstanding that the Student Life and Development Department (SLDD), formerly Academic Support/ Disabilities Liaison Unit (ASDLU), reported that on average the campus enrolled 100 students with disabilities per annum over the past four academic years, 2005 to 2009, this figure accounted for less than 1% of the total student population at the campus.

1.2 Significance of the Research

The intent of this dissertation in the context of the case institution is as follows:

*An investigation of the capacity of academic library services to serve users with disabilities: a case study of a regional service of The Alma Jordan Library, The University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies*

This study sought to ascertain capacity of an academic library, The AJL at the St. Augustine Campus of The UWI, to serve students with disabilities. The study focused on obtaining students’ with disabilities assessments on their experiences with accessing the library's physical and electronic facilities, resources and services. Students’ responses were obtained from surveys and interviews. The responses from the surveys were classified, while the responses from the interviews were transcribed, coded, and analyzed, to determine the strengths and weaknesses of The AJL system to serve students with disabilities such as blindness, low vision, hearing difficulties and mobility problems.
This research was timely as it followed a jointly-hosted conference, April, 2015, Trinidad, Trinidad and Tobago by the Network for Disabilities Education and Sensitization (NODES) and the Student Life and Development Department (SLDD), of The UWI, St. Augustine Campus. The conference addressed how individuals with different abilities and needs were perceived, educated, and provided for with the necessary structures to enable them to function as full-fledged members of Caribbean society.

The findings from the research should sensitize staff and the library management at The AJL to the level of facilities and services available to, and highlight the social and technological barriers that affect students with disabilities and aid in policy formation. The research is also important to the general public to highlight the basic principles regarding services and technological features of library users with disabilities in order to address their specific needs. Implications of the study include specialized training for staff to improve the services for persons with disabilities.

1.4 Research Objectives

The research objectives are:

- To investigate the effectiveness of the types of services provided to students with disabilities
- To discuss the main barriers to social and information access for persons with disabilities at The AJL, The University of the West Indies, St. Augustine.
- To highlight basic problems regarding services and technological features of library users with disabilities
- To identify potential training methods for staff
• To recommend improvements to the services for persons with disabilities at the AJL.

1.5 Structure

This dissertation uses the APA citation style throughout and follows the following structure:

• **Chapter Two** will present an overview of the current literature pertaining to copyright issues with regard to research dissemination in institutional repositories.

• **Chapter Three** will discuss research methods available. It will also describe and justify the methodology used in the research and to collect and analyses data.

• **Chapter Four** will present the findings from the survey and from the content analysis.

• **Chapter Five** will critically discuss the results in light of the literature review and the aims and objectives of the study.

• **Chapter Six** will present overall conclusions and make some recommendations arising from the research.
Chapter 2: Literature Review

2.1 Introduction

This study’s theoretical framework includes a number of perspectives by various researchers from the past two decades, on the provision of library services and facilities to persons with disabilities. These perspectives range from general principles on physical, technology or web access; the IFLAs Checklist; legislation; training; information seeking behaviour/ information needs; signage; promotion and marketing, as well as library policies.

The academic library in the university environment is the centre of academic life (Akolade, Tella, Akanbi-Ademolake, & Adisa, 2015). Therefore, libraries and librarians have a “moral obligation to make information available to all categories of users regardless of their gender, age, race, political affiliation or disability” (Babalola & Haliso, 2011, p. 141). The previous chapter opened the dissertation, by introducing the fundamental aspects of this study, such as the background, purpose and the scope of the research, along with the aims and objectives that will aid in answering the research question and also providing the structure to the dissertation.

This chapter reviews the existing literature on the subject of persons with disabilities in academic libraries. Section 2.2 outlines the literature search. Section 2.3 discusses the background of the research. Section 2.4 discusses the arguments about persons with disabilities in academic libraries for closer investigation. Section 2.5 summarises the literature review.
2.2 Searching the Literature

A review of the existing literature on the topic was conducted in order to provide a context for the case study and to gain an understanding of the current issues. Randolph (2009, p.2) emphasises that the literature review in writing dissertations “informs the student of influential researchers and research groups in the field”. Furthermore, Hart (1998) points out that a literature review is important for establishing the context and rationalising the significance of the topic or problem.

The initial search terms were derived from the keywords of the working title of the research project as follows:

Table 1

<table>
<thead>
<tr>
<th>Search Terms</th>
<th>academic libraries</th>
<th>libraries</th>
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<tr>
<td>disabled students</td>
<td>academic libraries</td>
<td>libraries</td>
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<tr>
<td>differently-abled</td>
<td>persons with disabilities</td>
<td>hearing-impaired students</td>
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<tr>
<td>blind students</td>
<td>Blind</td>
<td>visually-impaired students</td>
</tr>
<tr>
<td>visually impaired students</td>
<td>disabled students</td>
<td>academic libraries</td>
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</table>

These broad search terms were entered into keyword searches on search engines, websites and library catalogues of:

- The AJL, The University of the West Indies, St. Augustine,
- Aberystwyth University, Wales, United Kingdom,
- The National Library of Trinidad and Tobago (NALIS),
- The Library, Information Science and Technology Abstracts (LISTA),
- Library and Information Science Abstracts (LISA),
• Library and Information Sciences, and Proquest databases were investigated for content, as was the website of Google Scholar.

The relevant journal articles were printed and sorted by title and abstract into the main theme. This enabled a quick reference guide so the content of articles could be identified and any articles with overlapping themes obvious. Bibliographies and references were also searched for further readings.

2.3 Background

Throughout the world, universities have been struggling to make good on the promise of the United Nations' (UN's) Convention on the Rights of Persons with Disabilities (CRPD) (Osifuye & Higbee, 2014). Howell (2006) argues that the playing field for students with disabilities who wish to undertake studies at tertiary institutions is far from level. Those who manage to attend higher education institutions argue that there is a large amount energy, emotional resources and levels of stress combined with the overwhelming range of barriers that confront them, are undermining and place them at an ongoing disadvantage compared with other students.

Notwithstanding that Lee (2001) views education as the most important factor for the integration of persons with disabilities into mainstream society, Heaven (2004) reported that the provision of library services for higher-education students with disabilities were not in support Lee’s (2001) perspective. Individuals with disabilities cannot use a library that has been designed for non-disabled users (Akolade, et al., 2015). The lack of appropriate and adequate
provision for persons with disabilities at the primary and secondary school levels in Trinidad and Tobago has had a profound effect on the number of persons who have been able to access higher education. Library personnel, library associations and librarians need to consider the needs and expectations of the differently-abled, and factor these to develop and improve the services offered (Akolade, et al., 2015; Hernon & Calvert, 2006). Students with disabilities are not a problem but an opportunity and “the academic library has a role to unleash and develop that potential” (Hernon et al., 2006, p. xii).

2.4 Physical Access

Wijayaratne and Amarasekara (2011) acknowledge that library services and accessibility are not always provided for by libraries from the disabled perspective. Architectural building horrors have discouraged physically-challenged individuals from accessing a higher education (Okoli, 2010). Akolade et al. (2015) research showed that 10.6% of respondents indicated that the library’s architecture satisfies their disability, 4.4% are not sure, while 68.1% indicated that the building do not satisfy their disability. The research (Akolade et al., 2015) further stated, “the library environment is unaccommodating to physically-challenged students, the furniture in the library is not comfortable enough for physically-challenged students and there is no much space for physically challenged students in the library” (p.10). Librarians have not focussed on making the surroundings of the library accessible or on clearing paths of travel to and throughout the library section (Wijayaratne et al., 2011); “60% of libraries are inaccessible for people with disabilities particularly wheelchair users” (Wijayaratne et al., 2011, p. 4). Babalola and Yacob (2011) and McAulay (2005) advocate that it is important to minimise the physical barriers to libraries, whether tangible or perceived, if these users are to feel welcomed, encouraged, use and
source information. Viney (2006) in Lawal-Solarin (2013) emphasised that physically-challenged students encounter physical access limitations, for example retrieving books from the library shelves. The needs of wheelchair users should be taken into account in the architectural design of libraries (Imam, 2013; Lawal-Solarin, 2013).

In a conference presentation at The UWI, St. Augustine, Huggins’ (2015) stated that environmental barriers such as access to buildings, the library and toilets affected the visually-impaired students. Bright and Cook (2010) further reiterated that poor colour and contrast inhibits those with sensory impairments. Igwebuik and Agbo (2015) affirm that “the entrance of the library must be easy to identify by people with vision and cognitive impairments … a step free route leading to the library for the benefit of mobility impaired persons” (p. 4). The design, colour, lighting and contrast in environments are critical in determining how individuals interact with the space. The appropriate colour, lighting and contrast can increase a person’s sense of well-being, maximise their ability to move around a space independently, and reduce the effort involved in moving around. Therefore, when designing in an inclusive environment, consideration must be given to the use of colour, lighting and access to a space and moving around in it (Bright & Cook, 2010).

Apart from the internal challenges of the physical structure of buildings, Samson (2011) reported that “library administration should take an active role in securing disability parking spaces located as close to the accessible entrance as possible and an accessible pathway directly to that accessible entrance” (p. 271). Copeland’s (2011) research summarises that physical access to libraries for persons with mobility challenges remain difficult if not impossible. Some of these challenges include the steps with ramps; heavy doors; narrow footprints in the stacks;
inaccessible floor plans and space layouts that do not allow sufficient space for successful navigation of mobility equipment; shelves that are above or below the height of a person seated in a wheelchair; and inaccessible restrooms which deter regular library use or limit extended time needed for studying or for research purposes. Power doors, a barrier-free lobby, and information on how to locate spaces in the library should greet patrons on entry (Samson, 2011). Tinerella & Dick (2005) agrees with Samson (2011) that academic libraries should create a welcoming atmosphere for students with vision problems to obtain assistance, whether or not specialists or adaptive resources are available.

Heery (1996) confirms that physical access is not the only concern for students with disabilities but noted that inadequate physical access is not a reason for libraries not to provide services to students with special needs. Wood-Lamont & Robu (2012), Momodu (2014), and Heery (1996) note that there are measures that can be taken within the library and by librarians to assist disabled users with minimum effort. These measures include “ensuring access by ramps; converting two small toilets into one disabled toilet; accessible signing and announcements; redesign of service desks; purchase of friendly, accessible printed materials and design of the website” (Wood-Lamont et al., 2012, p.14). Furthermore, Heery (1996) contends that low-level photocopiers with capabilities for enlargement of text, additional services such as staff sourcing books for students, and assistance with photocopying, are appreciated by people in wheelchairs.

Lawal-Solarin (2013) agrees with Wood-Lamont et al. (2012) and Samson (2011) that resources need to be available to meet the needs of wheelchair users, however, they identified additional resources that needed to be included such as wider doorways and automatic doors; libraries should be spacious enough for wheelchair users to swivel around; elevators need to be always functioning and comfortable to accommodate wheelchairs; comfortable chairs and tables;
longer book loan periods; accessible entrances should be linked with paths; and toilets should be neat and comfortable.

2.5 Technology or Web Access

The Web Accessibility Initiative was viewed by many researchers, including Loiacona (2003), as one of the most important industry efforts to make the Internet interfaces more accessible to persons with disabilities. Akolade (2015) points out that the availability of resources does not mean that they are accessible. “A major role of libraries serving the physically challenged is the development of the standards for fully accessible, highly functional information systems that is effective in meeting their information and educational needs” (Akolade, 2015, p.11). A standard known as the Web Accessibility Standard was developed for several components such as Web content, user agents, and authoring tools to work together. This initiative helped designers and others to understand the principles for creating accessible websites, Web applications, browsers, and other tools for persons with disabilities. Visual and physical barriers include image control, video content inconsistency, unpredictable and overly-complex navigation, web browsers and authoring tools that do not provide custom colour combination and full keyboard support.

Website accessibility has increased over the years but the barrier-free websites are below satisfactory (Wijayaratne et al., 2011). The Internet has enabled the blind and visually-impaired to access the same information as sighted individuals through the use of screen magnification, speech output and electronic Braille output (Craven, 2009). These facilities improved the quality of life for the visually-impaired as they enabled effortless communication, which helped them to become better informed (Loiacono, 2003).
Power and LeBeau (2009) note that databases and electronic resources are important in academic libraries for their users’ information needs. Thus, it is imperative that these resources are accessible to users with disabilities. Academic librarians must advocate for accessible Web design and be proactive in seeking assurances that vendors are committed to building accessibility into their online production (Byerley & Chambers, 2002). Akolade et al.’s (2015) contends that availability does not equate with accessibility, 53.2% agree that accessibility of information resources to physically-challenged students in the library are satisfactory, 8% are not sure, while 14.9% indicated not satisfactory; 42.6% accept that consultation services available to physically-challenged students in the library are satisfactory 17% not sure, while 46.8% indicated not satisfactory. Online Computer Library Center (OCLC) and Gale Group Info Trac, Byerley et al. (2002) studies revealed a high degree of accessibility to all text and non-text elements. Some databases and Online Public Access Catalogue (OPAC) do not have a Zoom Text Option (Seyama, Morris & Stilwell, 2014).

The rapid growth of technology has impacted upon library accessibility and the services that should be provided to persons with disabilities, therefore inclusion practices and universal design should be emphasised in libraries (Copeland, 2011; Samson, 2011). Assistive technologies have been used by people with disabilities to enhance functionality and have been used as supportive resource tools for community living and participation (Imam, 2013). In a recent article, Majinge and Stilwell (2013) emphasized that the assistive technologies available in all the universities that they surveyed were in the disability units provided by the schools and not in the libraries. Majinge et al. (2013) advocate the need for academic libraries to convert information resources into formats which are suitable for people with visual impairment as those individuals as well as those on wheelchairs need specialised services or adaptive equipment to
access and use information resources in the library as well as remotely. Imam (2013) argues that assistive technologies must be provided for all persons with disabilities to facilitate full participation in education, employment and social life. Babalola and Haliso (2011) as well as Copeland (2011) have demonstrated the need for the prioritising of investment into assistive technologies in academic libraries so that the visually-impaired can benefit from the wealth of resources available on the World Wide Web and the online catalogue.

Lucky and Achebe (2013) suggested the inclusion of assistive technology devices such as screen readers, Braille translation software, Braille writing equipment, closed-circuit television, Braille embosser and scanners. Wallace (2007) reported that the opening of the National Library in Trinidad in March 2003 facilitated the introduction of “print Braille, recorded books and assistive technologies” (p. 135). The differing types of assistive technologies present various solutions to address the problems associated with accessing a Web page (Craven, 2009). In addition, for persons with physical disabilities to use the Web, specialised hard- and software, ergonomic or specially-designed keyboard and mouse, head pointer, mouth stick, other aids to type, onscreen keyboard with trackball, voice recognition, and eye tracking and hands-free interaction approaches are required. Paciello (1996) claims that Web pages do not present any major barriers to the physically-challenged; it is the contents that should be given credence, even though the head and eye movements are not easily accomplished. Library kiosks should be designed for individuals in wheelchairs: the kiosk height, control knobs or buttons, and input mechanisms should be easily accessible (Paciello, 1996).
2.6 International Federation of Library Association Checklist

The IFLA’s Standing Committee of Libraries Serving Disadvantaged Persons (LSDP) checklist can be used as a benchmark for assessment of good practices for the persons with disabilities in libraries (Irvall et. al., 2005). This checklist was designed as a practical tool for all libraries to assess existing levels of accessibility to its buildings, services, materials and programs. The checklist also ensures enhancement accessibility where needed. The document, however, does not address the requirements of library staff. It is essential to note that the checklist should not be seen as providing the highest level of service but should be used as a framework for continual development and improvement (Forrest, 2006).

The IFLA document details the physical access required by libraries to ensure that everyone is able to use the libraries of a country (Irvall et al., 2005). The article identifies that the surroundings of the library: the entrance, restrooms, stairs, elevators and special rooms, should be accessible for persons with different kinds of disabilities. The checklist emphasises that a person in a wheelchair should be able to walk with a cane or a guide dog and find one’s way without bumping into obstacles. A deaf person should be able to communicate with library staff; this communication should be clear and concise and not through a caregiver. The document details the facilities that are important to the library’s external environs; in accessing the library; accessing materials and services including physical space, toilets and reference desks. This checklist includes staff training for disability awareness, the provision of services and information, and working with organizations to support disabled people. The Website and catalogue should be accessible for persons with reading disabilities through enlargement capability and screen readers, combined with synthetic speech or Braille displays.
2.7 Legislation

Pinder (2005) reported that the expectations of the persons with disabilities have changed over several decades; legislation has impacted positively on the provision of services since an increasing number of students are now entering higher education with declared disabilities. Power et al. (2009) suggest that libraries should be familiar with guidelines and established laws that mandate the services and resources that should be offered to people with disabilities. This section of the literature review will cover international legalisation and policy as well as review the limited legislation enacted in Trinidad and Tobago.

The Disability Discrimination Act (DDA) of 1995 has “significance for public libraries as it is legally obliges them to ensure that their service provision does not discriminate against disabled people” (Mc Caskill & Goulding, 2001, p. 205). The Special Education Needs and Disability Act (2001) (SENDA) states that higher education institutions were required to anticipate the obvious needs of students with disabilities and, and make reasonable adjustments for individual disabled student. Human Rights Act of 1998, United Kingdom, incorporated in 1998 but came into forced in 2000 ensure certain rights are guaranteed to disabled people.

The Americans with Disabilities Act (ADA) of 1990, the primary United States law governing accessibility, states that no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs or activities of a public entity, or be subjected to discrimination by any public entity. This Act “propelled academic libraries to review their facilities, collections and services for people with disabilities and make necessary modifications” (Cassner, Maxey-Harris & Anaya, 2011, p.34).
The American Library Association’s (ALA’s) *Library Services for People with Disabilities* Policy (2001) highlighted that libraries must not discriminate against individuals with disabilities and should ensure that individuals have equal access to library resources. Libraries should provide disabled individuals with services such as extended loan periods, waived late fines, book loans by mail, home delivery service, designated readers and technology assistants in the library. The policy propounds the need for libraries to include disabled persons as participants in the planning, implementation and evaluation of library services; in programs and facilities; and to facilitate further consultation with agencies, organizations and vendors to integrate assistive technology into existing facilities and services in order to meet the needs of people with a broad range of disabilities that include learning, mobility, sensory and developmental disabilities. The ALA “has become more active in its efforts to write and promote documents to support library services for persons with disabilities (Cassner et al., 2011, p.34).

The ALA policy (2009) further suggests that facilities have reasonable structural modifications such as accessible parking, clear paths of travel to and throughout the facility, entrances with adequate, clear openings or automatic doors, handrails, ramps and elevators, accessible tables and public service desks, and accessible public conveniences. Further, signs should include Braille and clearly visible character size, font, contrast and finish.

The World Report on Disability (2011), however, states that “policy does not always take into account the needs of people with disabilities or existing policies and standards are not enforced” (p. 262). In Trinidad and Tobago, the National Library and Information System (NALIS) Act, No.18 of 1998, mandated the library authority to prioritize the needs of blind and
visually-impaired groups and provide information service to benefit the physically disadvantaged.

2.8 Training

“Training is necessary for optimum performance” (Babalola et al., 2011, p.145). It provides an opportunity to understand the experience of people with impairments, to discuss barriers to communication, develop information strategies, clarify staff obligations, and study the best practice in library service to ensure that it is inclusive for all persons with impairments (Hernon et. al, 2006). Lipschultz (2010) argues that “there is very little written on staff training and development for serving patrons with disabilities or specifically those with hearing loss, and yet it is very important for staff to learn to be comfortable serving this segment of the population” (p. 7). Lack of training in the use of the technology, tools, sources of alternative formats, as well as the adaptations to legislation were noted by Epp (2006), Koulikourdi (2008), and Eskay and Chima (2013) as impediments of academic libraries for fulfilling equal services. Staff training should ensure that library personnel are informed and prepared to provide qualified and appropriate assistance to students with disabilities (Samson, 2011; Lawal-Solarin, 2013). In a survey conducted by Kinnell, Yu and Creaser (2000), it was observed that 62% of libraries employed special services staff as part of the team with specific responsibility to serve the needs of visually-impaired persons. The report goes on to argue that in 1997, 70% of staff had received visual awareness training while in 2000 staff training represented a reduction to 66.9% (Kinnell et. al., 2000). However, this finding contradicted Hernon et al’s. (2006) claim that “most librarians who are responsible for services to students with disabilities have no formal training in that area” (p. 84). Tinerella et al. (2005) and Green & Gillespie (2001) advocated that library administrators should ensure that library staff are aware of the implemented policies,
specialized equipment and software purchased for the library, and that there is adequate training in assistive technologies.

In 1993, Almena highlighted a lack of trained personnel in academic libraries in developing countries since the library schools’ curricula are geared toward conventional librarianship and librarians’ training is outdated after they graduate. Thus, librarians need to be retrained to relate to physically-challenged clients (Igwebuike et al., 2015). Library and information schools should review their curricula to include training for librarians (Babalola et al., 2011; Echezona, Osadebe, & Asogwa, 2011; Samson, 2011). Professional associations should also provide training on library services for print-disabled people who are potential graduates and continuing education students (Kavanagh & Skold, 2005) “since the legal framework extends to meeting programmatic needs and requirements” (Hernon et al., 2006, p. 84).

Hence, “Caribbean organizations should ensure that English-speaking Caribbean’s only library school at The University of the West Indies (UWI), Mona Campus, Jamaica, includes courses for disadvantaged communities with specific reference to visually-impaired services” (Wallace, 2007, p. 142). Wallace (2007) emphasised the need for training paraprofessionals by the College of Science, Technology and Applied Arts of Trinidad and Tobago (COSTAATT) to include instructions in library science courses to the visually-impaired. However, Hernon et al. (2006) contends that library schools of library and information studies may not be the best place to offer such training since the graduates of these programs go into different facets of librarianship. As such, it may be best for on-the-job training state agencies to offer the training. Thus, Beaton (2005) points out that the library should work with the voluntary sectors in society
to provide tutorial support for customers, learning materials, staff training, and provide publicity and marketing support.

Heery (1996) posits that library staff needs to be supported by specialist staff to understand the needs of people with disabilities. The participation of the entire reference staff is essential if academic libraries are committed to full inclusion and equality of opportunity (Tinerella et al., 2005). Librarians need to re-evaluate their roles in the process and work collectively to provide first-rate reference services and research support for the increasing number of special-needs students. The attitudes of staff are essential ingredients in equipping the library for the blind (Alemna, 1993; McAulay, 2005; Needham, 1977). Heery’s (1996) research stated that “50% of academic librarians have a positive disposition towards users with disabilities” (Heery, 1996, p. 6). Therefore, “the foundation of any service lies in the attitudes of those who provide it” (Heery, 1996, p. 6). The findings from a survey showed that over 50% of the younger librarians in the 20 to 29 age group, female librarians, held “slightly positive attitudes towards disabled patrons ”(Dequin, Schilling, & Huang, 1988, p. 31). Later research by Ekwelem (2013) found that library staff provides services to the disabled users from sympathy rather than as their equal right, 58% of the respondents strongly agree while 19% agree. Thus, Akolade et al’s (2015) infer that interacting with disabled persons can increase a person’s comfort level. Further, the findings show that 97% of the respondents agreed that the disabled should be given compulsory and unsolicited assistance by library staff.

Akolade et al’s (2015) statistics are lower than earlier research (Dequin, et al’s, 1988; it states that there is a “bad attitude of library staff towards the physically challenged students in the library” (p.10), 40.4% of the respondents indicated their satisfaction with library staff attitude
towards physically challenged students, 12.8% are not sure, while 31.9% are not satisfied. The report therefore concluded that “trained library personnel should be designated to the different categories of physically-challenged users for effective interaction and communication and should have a change of attitude towards them” (Akolade et al., 2015). McCaskill et al. (2001) affirms that “disability awareness training would help staff identify barriers in the library for themselves and encourage them to consider disabled people’s needs more systematically” (p. 198).

2.9 Information Seeking Behaviour and Information Needs

The glory of a library is to have the fulfilment of satisfying users’ needs irrespective of the physical and intellectual conditions of users (Akolade et al., 2015). Wilson (2006) argues that an information need is a secondary need that results from an individual’s effort to satisfy basic human needs such as the need for achievement. Information seeking behaviour is a conscious effort to acquire information in response to a need or gap in one’s knowledge (Case, 2002). Wilson’s (1993) model can be used to explain the information behaviour of the visually-impaired; the barriers to information seeking are constrained by personal, interpersonal and environment barriers (Babalola et al., 2011). According to Moya, Owino and Ogenga (1986), cited by Babalola et al. (2011), the information needs of the disabled can assist them to better understand and cope with their disabilities and unique life experiences (Viney, 2006), as well as satisfy their physiological, affective and cognitive needs. Kavanagh et al. (2005) noted that “visually-impaired people have the same information needs as sighted people --- visually impaired people also want access to relevant information in their chosen accessible format” (p. 6).
However, Moore (2002) found that the visually-impaired face more challenges than most when meeting their information needs. Tilley (2009) affirm that the lack of information can lead to social exclusion and more challenges face by persons with disabilities than others trying to meet their information needs. Further, Moore (2002) notes that visually-impaired persons have additional needs that are unique to them; they are also constrained by the range of formats and delivery mechanisms that they can utilise to access information.

Seyama et al. (2014) elaborated that information services vary according to the students’ degree of sight impairment as well as the extent to which they personally encounter barriers. Therefore, irrespective of their impairment every individual has needs that are not similar but needs met at a certain time. Akolade (2015) notes that 47% of the respondents strongly agree that they visit the library for educational information. Therefore, individuals’ needs are often specific to a particular situation to be met at a certain time. Seyama et al. (2014) argues that a “one-size-fits” all approach to the provision of services should not be adopted unless the services are universally designed. A crucial question Seyama et al. (2014) ask is whether particular information is accessible in a usable format to the student with visual impairment and who uses information seeking behaviour by choice.

Akolade et al. (2015) says that “the physically challenged students’ information needs are not adequately provided for and the level of accessibility to information material is at a very low level thereby making these groups of students have a negative perception about the whole functionality of the library” (p. 2). However, they enter libraries for the same reasons as anyone else. Access to information infrastructure limits the capacity of developing countries to meet the information needs of the visually-impaired (Eskay et al., 2013; Rowland 2008).
2.10 Signage

Huggins (2015) who presented at the Towards Social Integration: Rights, Roles, Recognition of Persons with Disabilities Conference recommended the need to assist visually-impaired students to physically access the university compound with automatic doors, Braille and tactile signage, as well as yellow plates on doors. Directional signage in libraries is essential (Bigdeli, 2009; Lawal-Solarin, 2013); however, it is found to be inadequate since no libraries used Braille or tactile information (Heaven, 2004). Igwebuike et al. (2015) recommended that signage and directions for finding systems must be placed from the main entry to the university to all sections of the library since it can go a long way in making people independent in their interaction and use of various facilities in the library. Heaven (2004) argues that shelf-labelling was criticised by students as too high and not legible. However, safety signage was often at inconvenient heights for individuals with visual impairments and for wheelchair users. In contrast, text with inappropriate use of typefaces such as italics on floor maps was too small and difficult to read (Heaven, 2004). The report by Heaven (2004) recommends that signs must be in bold print and placed at a level that is visible.

Directional signs in libraries should be legible in clear fonts such as Arial with the appropriate colours, black lettering on a white or yellow background, Braille notices and photocopiers should be also be provided for the visually-impaired (Heery, 1996). Roy and Bandyopadhyay (2009) maintain that “elevators should have different audio signals to indicate up and down direction (p. 628). Furthermore, Seyama et al. (2014) claim the shelves are too difficult to read because of their heights as visually-impaired students found it easier to read at eye level compared to books and signs that were located too low or too high on shelves.
2.11 Promotion and Marketing Policies

“Marketing makes libraries realize and reaffirm who are their customers and what are their needs. Marketing helps to achieve high levels of customer satisfaction” (Jose & Bhat, 2007, p. 24). The promotion of the library is an important task that should be carried out to improve its image and creditability (Hazidah & Edzan, 2012). According to Heery (1996), new services offered by libraries require effective promotion by library staff committees and other academic departments that should be able to advertise and promote the development of the service on a day-to-day basis through “face to face promotion of services, as well as using publicity materials” (p.12). McCaskill et al (2001) noted that it essential for publicity of aids since their use is directly related to the awareness of their existence and “neglecting to publicise service and facilities specifically available for disabled users is perhaps even more unwise” (p. 202). Chew and Huggins (2002) emphasised that library promotions can be ineffective in attracting the wheelchair-bound young persons; therefore publicity should address the accessibility issue.

2.12 Library Policy

Chard and Couch (1998) emphasised that “the policies and procedures for the everyday running of a building will have an impact on how easy it is to be used by disabled people” (p. 622). It is the responsibility of library administrators, as Tinerella et. al., (2005) maintains, to ensure that clear policies are in place for the use of specialized study rooms, adaptive equipment and software. There should be a written policy statement on library services for persons with disabilities to serve as a guide for the planning and implementation of the services by libraries.
Written into the policy guidelines should be regular induction meetings for students throughout the year (Heery, 1996).

**2.13 Summary**

This chapter explored the basic principles regarding the provision of library service and facilities for persons with disabilities as suggested by various researchers from the past two decades. There have been comparative professional discussions in some areas on the needs of persons with disabilities. Although numerous studies have been conducted on persons with disabilities, there is limited research in the Caribbean as evidenced by limited literature on the topic. The majority of information focused on the United States of America, the United Kingdom, Canada, and Europe. Information on the developing countries dealt primarily with the African, Asian and Indian continents. This investigation therefore seeks to produce a more detailed, representative, and up-to-date dataset to address the knowledge gap in the areas identified.
Chapter 3: Methodology

3.1 Introduction

The most fundamental part of performing any research project is the research method. It involves the forms of data collection analysis and interpretation that are proposed by researchers for their studies (Creswell, 2009).

This chapter aims to discuss the methodological approach to ensure sufficient and valid primary data is collected on consenting research participants in order to answer the research question:

An Investigation of the capacity of academic library services to serve users with disabilities: a case study of a regional service of The Alma Jordan Library, The University of the West Indies, St. Augustine, Trinidad and Tobago, West Indies

Qualitative approach can be used since little research has been done on the concept of services for persons with disabilities at The AJL, UWI, St. Augustine. Creswell (2009) further noted that qualitative research is “exploratory and is useful when the researcher does not know the important variable to examine” (Creswell 2009, p. 18). This approach is important since it is a new and never addressed within a certain sample or group, and the uniqueness of the Caribbean region existing theories do not apply.

A mixed methodology would ensure the exploration of the research topic can be as exhaustive as possible given the timeframe. This research design is useful “when either by quantitative or qualitative approach by itself is inadequate to understand a research problem or the strengths of both qualitative and quantitative can provide the best understanding” (Creswell, 2009, p.18).
This chapter begins with a justification of the methodological approach taken along with a comparison of data collection methods such as interviews and questionnaires. The method used by the researcher to obtain permission for the research and the procedure that the author used before, during and after primary data was collected.

### 3.2 The Research Approach

**3.2.1 Data collection techniques.** Qualitative data collection is a social activity; obtained from interviews, observation, individual or group discussion (Bond, 2006) and tends to be inductive (Schutt, 2011). The following data collection techniques, their advantages and disadvantages were considered in the selection of an appropriate research strategy.

**3.2.1.1. Case Study.** Bryman (2012) states that the term “case” links the case study with a location, such as a community or organization. The setting is examined intensively and in detail (Bryman, 2012) and allows a deeper, more thorough examination of the research question (Bell, 2010; Hammond & Wellington, 2013). Case studies, Creswell (2009) noted, is “a strategy of inquiry in which the researcher explores indepth, a program, event, activity, process, or one or more individuals ... bounded by time and activity” (p.13). It simply involves observing what happens to a group of individuals within organizations, or of one or more organizations, with a view to providing analyses of the context and processes involved in the phenomenon under study (Meyer, 2001). Leedy and Ormrod (2013) maintain that “data often include observations, interviews, documents” (p. 411). Both quantitative and qualitative research are employed in this research technique and researchers select qualitative (interviews and observations) or quantitative (questionnaires) techniques for data collection and analysis to generate data.

Case studies are characterised as descriptive, narrowly focused, combining objective and subjective data, and are process-oriented. Hayes (2000) highlights a number of advantages that
are derived from the case study method. These include stimulating new research, contradicting established theory, or giving new insight into phenomena or experience which are not have been gained in any other way. Meyer (2001) argues that permitting investigation of otherwise inaccessible situations and a holistic view of the process are additional advantages of the case study method in social research.

Hayes (2000) also discusses the disadvantages of the case study method which includes the factor of replication which is not possible- the findings cannot be replicated since it may not be representative of any wider population, therefore the reliability measures are low; the researcher’s subjective feelings may influence the case study; memory distorts – the information about past experiences and events may be subjected to distortion. Meyer (2001) refers to the case study method as a loose design.

3.2.1.2 Questionnaires, Interviews and Observation. Table 2 summarises researchers’ views on the advantages of the use of questionnaires, interviews and observation with respect to selecting an appropriate research methodology, while Table 2 presents the disadvantages:
Table 2

Advantages of using Questionnaires, Interviews and Observations

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Questionnaires</th>
<th>Interviews</th>
<th>Observation</th>
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<tbody>
<tr>
<td>Standardization of questions (Bond, 2006; Gillham, 2008; Neuman, 2011)</td>
<td>Good means of examining feelings and values (Bond, 2006)</td>
<td>An “invaluable way of collecting data because what you see with your own</td>
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<tr>
<td>Useful for generating quantitative data for statistical analyses and uncovering qualitative information (Bond, 2006; Neuman, 2011)</td>
<td>Gives access to the observations of others and a window on the pass, enabling insight into settings closed to the researcher (Bond, 2006; Bryman, 2012; Weiss, 1995)</td>
<td>you see with your own eyes and perceive with your own senses are not</td>
<td></td>
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<tr>
<td>Easy to get broad patterns of thought and behaviour within a sample population quickly (Bond, 2006; Gillham, 2008; Hammond et al., 2013; Neuman, 2011)</td>
<td>The relationship between the researcher and participant is not strictly scripted (Yin, 2011)</td>
<td>others might have self-reported to you or what the author of some document might have seen” (Yin, 2011, p. 143)</td>
<td></td>
</tr>
<tr>
<td>Cost and time saving (Bryman, 2012; Gillham, 2008)</td>
<td>Social cues are taken advantage of, such as voice, intonation, body language of the interviewee (Opedenakker, 2006)</td>
<td>Can yield both qualitative and quantitative data</td>
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</tr>
<tr>
<td>Participants are less pressured to give an immediate response and there is anonymity with the response (Bryman, 2012; Gillham, 2008)</td>
<td>Accurate Screening</td>
<td>Permanent record of events allowing for further analyses to be carried out (Bryman, 2012)</td>
<td></td>
</tr>
<tr>
<td>The interviewer effects are eliminated since individuals exhibit social desirability when an interviewer is present (Bryman, 2012)</td>
<td>Increasing knowledge interchange of knowledge between interviewer and interviewee</td>
<td>Complements other approaches such as the interviewing process, knowing how to interpret the body language of the respondents (Hague, 2006)</td>
<td></td>
</tr>
<tr>
<td>More convenient for the respondent (Bryman, 2012)</td>
<td>Time saving and less costly</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flexibility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disadvantages</td>
<td>Questionnaires</td>
<td>Interviews</td>
<td>Observation</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Lack of personal feel of interviews (Gillham, 2008)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Misunderstandings cannot be easily corrected (Bryman, 2012; Gillham, 2008)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The researcher assumes that the participant have answers available in an organized fashion (Bryman, 2012; Gillham, 2008)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It is impossible to check the seriousness and honesty of answers (Bryman, 2012; Gillham, 2008)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of prompting or supervision than in interviews can cause partially answered questions (Bryman, 2012)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poor response rate (Bell, 2010; Bryman, 2012; Hammond et al., 2013)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal method may not be revealed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time consuming</td>
<td></td>
<td>Time consuming and resource intensive (Hague, 2006)</td>
<td></td>
</tr>
<tr>
<td>Much attention to detail is required for a good interview; both the interviewee and the interviewer are less attentive</td>
<td></td>
<td>Observer bias - relies on the researcher’s perceptions (Bryman, 2012; VanderSteop &amp; Johnston, 2009).</td>
<td></td>
</tr>
<tr>
<td>Limited sample size</td>
<td>The quality of the data depends on the ability of the interviewer analyse</td>
<td>Difficult to analyse (Bryman, 2012; Hague, 2006)</td>
<td></td>
</tr>
<tr>
<td>Too much flexibility and inconsistency</td>
<td></td>
<td>The presence of the observer influence the behaviour observed</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Not good at answering the why question – the intention behind the behaviour (Bryman, 2012)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>The researcher is limited by observing skills and the participants present special problems in gaining rapport (VanderSteop et al., 2009)</td>
<td></td>
</tr>
</tbody>
</table>
The advocacy/participatory world view holds that the research contains “an action agenda that may change the lives of participants, the institutions in which individuals work or live and the researcher’s life” (Creswell, 2009, p. 9). It provides a voice for participants, to raise their consciousness or advance an agenda to change and to improve their lives. With respect to librarians, it can provide “an understanding of our users without disrupting the service upon which our field is based” (Mellon, 1986, p. 165). In addition, this approach focuses on the “needs of groups and individuals in our society that may be marginalised or disenfranchised” (Creswell, 2009, p. 9).

Qualitative data allows researchers to investigate people’s beliefs, values and action and can be used to enrich experiments and surveys (Bond, 2006; Bryman, 2012; Schutt, 2011). Schutt (2011) emphasises that qualitative research allows the researcher to obtain a “richer and more intimate view of the social world” (p. 305). It is used to investigate and understand why particular events and actions happen and why we want to know how people feel (Bond, 2006; Bryman, 2012). Ormston, Lewis, Nicholls and Ritchie (2013) summarises that “qualitative research is a very broad church and includes a wide range of approaches and methods found within different research disciplines” (p. 3). The research method focuses on collecting and analysing information in a non-numeric way. It is associated with the subjectivist paradigm and emphasises the naturalistic and phenomenological mode of research by focusing on the exploration of as much detail as possible of the human condition (Creswell, 2009). Common methods of qualitative data collection include observation studies and interviews (Creswell, 2009).

Creswell (2009) further notes that qualitative research is “exploratory and is useful when the researcher does not know the important variable to examine” (Creswell, 2009, p. 18). This
approach to the topic is important because the area of study have never addressed within this sample group in the Caribbean region. The existing theories do not apply as an explanation of behaviour.

However, Bryman (2012) critiques qualitative research as being too subjective and impressionistic. This research type is difficult to replicate since there is not any standard procedure. Generalisations are problematic since the findings of qualitative investigation are restricted - the participant observation findings cannot be generalised to other settings. Bryman(2012) further notes that qualitative research lacks transparency; it is difficult to establish what the researcher did to arrive at the study’s conclusion.

Quantitative research, on the other hand, is used for “testing objective theories by examining the relationship among variables” (Creswell, 2009, p. 4). Questionnaires are used to collect quantitative data, and interviews for qualitative data.

The similarities qualitative and quantitative research include:

- data reduction (Bryman, 2012)
- open and closed-ended questions (Creswell, 2009)
- responding to research questions (Bryman, 2012)
- concern with variation (Bryman, 2012)
- frequency is a springboard for analysis (Bryman, 2012; Creswell, 2009)
- ensuring deliberate distortion does not occur (Bryman, 2012).

The differences between the qualitative and quantitative research include:
• Statistical analyses and interpretation of numbers as opposed to identification of themes, interpretation and analyses of text and images (Bryman, 2012; Creswell, 2009)
• Point of view of the researcher vs. point of view of the participants (Bryman, 2012)
• Researcher is distant vs. the researcher is involved (Bryman, 2012)
• Static (pre-determined) vs. process (emerging methods) (Bryman, 2012; Creswell, 2009)
• Structured, instrument-based questions vs. unstructured, open-ended questions (Bryman, 2012; Creswell, 2009)
• Macro vs. micro and artificial vs. natural settings (Bryman, 2012).

Bryman (2012) argues that mixed method research allows for completeness where the gap left by one method is filled by another. This method allows for the ability to combine both static and procedural pictures of social life (Bryman, 2012). Bryman (2012) also states that qualitative research provides the context for understanding quantitative research; thus, contextualising data. Mixed method research can also have utility, allows for diverse views and enhances the findings of the study (Bryman, 2012).

3.3 Sampling Frame

The research population is considered a critical part of any survey. Three different populations were targeted for this study, the students with disabilities which included visually-impaired, physically-challenged and hearing impaired; librarians of The AJL and the SLDD Coordinator.

3.3.1. Students. The first elements of analysis were students who fitted the following criteria:
• some form of categorised blindness or visual impairment, hearing-impaired;
• currently registered students at the UWI, St. Augustine;
• registered with SLDD and registered as blind or visually-impaired, physically-challenged or hearing-impaired;
• utilised the specialised services available through the SLDD to facilitate their learning and integration at the campus.

In consultation with SLDD, it was found that there were initially twelve (12) students who met the above-mentioned criteria. The students were not forced to participate. They were made aware, through SLDD of the researcher’s identity, nature of study, the motivation behind the study and their level of involvement in the study. All elements in the population were asked to participate; therefore no sampling strategy was employed.

There were two other “populations” the academic staff of The AJL and the Coordinator SLDD.

3.3.2. Academic Staff at The AJL. The second element of analysis was six (6) Librarians and the Information Technology (IT) Officer at The AJL, The UWI, St. Augustine. These were chosen because the subject matter related to services provided by the library. Semi structured questionnaires were distributed and returned from the Librarians. The IT Officer was interviewed.

3.3.3. The Co-ordinator SLDD, St. Augustine. The last unit of analysis was the SLDD Co-ordinator. This selection criterion because the unit aim to assist students with disabilities in realising the academic potential and maximise opportunities for growth and development.
3.4 Sample Description

The sample included 20 respondents which included 12 students (100% of the sample population), 7 academic staff including 6 Librarians and an IT Officer (100% of the sample population) and the SLDD Coordinator. The student demographics, it represented 37% males and 63% females. Respondents’ ages ranged from 20 to 47 years, each of which represented 12.5% of the population under study. Eighty seven percent represented students at the undergraduate level, while postgraduate representation was 13%. The types of disabilities included the visually-impaired (37%), hearing impaired (13%) and physically challenged (50%).

3.5 Authorisation for Research

The researcher requested written permission from the Co-ordinator of SLDD to conduct the study on students with disabilities. The researcher also requested permission from the Campus Librarian to conduct research on students with disabilities of The AJL. The request contained information on the research; details on the research methodology such as the use of a survey questionnaire and face-to-face interview; and the benefits of the study. It also contained information on the study’s ethical procedures that included confidentiality (Appendices 1 and 2).

The students with disabilities as well as the academic staff of The AJL indicated their willingness to participate in the study after meeting the criteria of the sample frame. The students indicated their willingness to participate in the study verbally to the Co-ordinator of the SLDD who subsequently pass the student name, telephone number and email address to the researcher. The librarians were asked by the researcher to participate in the study. The researcher emailed a letter of consent to the respondents (Appendices 3 and 4).
3.6 Pilot Study

A pilot was carried out before the questionnaires were finalised. The purpose was to identify and correct any confusing or ambiguous questions. It was imperative that the questions were kept simple to maximise the potential response rate. The pilot survey was conducted on two (2) students with disabilities and one (1) librarian, who were selected randomly. This allowed the researcher to obtain feedback and critical discussion on the survey. Modifications were made based on the responses and final questions were presented in a logical order.

3.7 Questionnaire

Quantitative method of questionnaires ensure that the opinions of many people are easily and quickly collected to provide a broad picture of the situation and the levels of confidence staff possess in the delivery of this service (Hammond & Wellington, 2013).

Three different questionnaires were developed for the students with disabilities as well as the librarians to assess the views of these groups. The questionnaires contained an ethical statement on the first page (Appendices 6 and 7). The survey did not make use of a single, generalised scale; instead, the questions required participants to either tick a box or enter a worded answer. A branch question existed in the survey that required participants to specify a personal choice, which then directed participants to a follow-up question. The questionnaire was designed to investigate the themes identified in the literature review and to gauge the participants’ responses to various information acquisition methods.

The close-ended questions allowed the respondent to choose from a list of pre-determined questions. The dichotomous yes/ no responses allowed no scope for a middle perspective. This
was important for gathering information and quantifying numerical data. Questions 1 to 5 addressed general information on the types of students. A contingency question, “a special case of a closed-ended” (Newman, 2011, p. 28), was used to direct the sub-group to answer a specific set of questions.

The open-ended format questions allowed the respondents an opportunity to express their opinions objectively allowing for unusual responses and exploration of new areas of research, or areas where the researcher’s knowledge was limited. It was noted, however, that survey questions may be difficult to answer and more difficult to analyze (Neuman, 2011).

Once the questions had been piloted and finalised, a copy of the questionnaire with an explanation cover note were sent to the students with disabilities and the librarians who agreed to participate in the research. The researcher did not give a period for the completion of the questionnaires. However, respondents who did not complete the questionnaire after a period of one week was sent a reminder email.

3.8 Interviews

The qualitative approach was used since little research had been done on the concept of services for persons with disabilities at The AJL, UWI, St. Augustine. Face-to-face interviews were chosen to ascertain respondents’ perceptions of the library’s role in the provision of services for persons with disabilities. A focus group was considered. However, this method of data collection was dismissed as individuals may have been reluctant to express in a group situation, and the breadth of the discussion narrowed by more vocal members of a group.
Due to the time constraints, it was decided not to conduct a pilot interview. Interviewees were contacted by email with a brief introduction of the research and its aims. They were asked if they would be prepared to participate in one-on-one interviews. Once the participant agreed in principle to participate in the study an interview was arranged at various locations on campus outside SLDD office and not in close proximity to The AJL. The choice for a neutral location made students less likely to identify the researcher’s position as employee of the University and a member of library staff, as well as ensured their comfort in the interview process. The interviews were recorded by note-taking and later re-written that day to ensure an accurate representation of interviewees’ answers and allow for detailed analysis.

3.9 Ethical Considerations

Neuman (2011) suggests that “ethical issues are the concerns, dilemmas and conflicts that arise over the proper way to conduct research” (p. 116). Individuals should not suffer adversely from the survey (Fowler, 2002). Disability research is no different from other research and covers standard ethical guidelines for social research. The research methods need to be comprehensively disability-proofed (National Disability Awareness, 2003).

The research was guided by the British Sociological Association’s Statement of Ethical Practice, American Sociological Association’s Code of Conduct, and Aberystwyth University’s Research Ethics Guidance Notes. The participants were informed about the purpose of the research (Fowler, 2002; Neuman, 2011). Each participant was informed that the data would be used strictly for the purpose of research, and all gathered data would be disposed of on completion of the research. The participants were assured that the researcher would have sole
access to all notes and data files and that appropriate data disposal methods would be used on all electronic resources.

The National Disability Authority paper on persons with disabilities entitled *Ethical Guidance of Research with people with Disabilities* notes that researchers need to be mindful of the various issues that can arise in research projects with disabled persons. The ethical research practice for persons with disabilities ensured that participants were not harmed during the research process. The researcher ensured that there was non-disclosure of harmful or intimate information during the data collection process (Schutt, 2011).

3.10 Data Analysis

3.10.1 Quantitative Data Analysis. On completion of the quantitative element of the study, each questionnaire was collected and individually perused to identify where responses were not recorded, or where there were errors in the responses given. Each questionnaire was numbered. Individual *Microsoft Excel* spreadsheets were used to systematically organize like responses. The relevant data from each questionnaire was transferred to its corresponding spreadsheet. The totals for responses to each question were calculated, presented in tabular format, and translated into bar or pie charts. Results were displayed in visual charts for comparison.

3.10.2 Qualitative Data Analysis. Qualitative codes are “essence-capturing and essential elements of the research story, when clustered together according to similarity and regularity-a pattern-they actively facilitate the development of categories and thus analysis of their connections” (Saldana, 2009, p.8). Specific codes that were used in the analysis process were both ‘In Vivo Code’, based on the direct word from respondents’ answer and ‘Initial Coding’,
which is a short summary of the answer (Saldana, 2009). The researcher divided the raw data; the respondents’ transcribed answers into similar sets, preliminary codes, then grouped these sets under themes, final codes, using Microsoft Word. The results of the data are displayed through figures.

### 3.11 Limitations of the Research

- The use of case studies to generalised results in a wider context (Bell, 2010; Bryman, 2012). Even though, it is most appropriate for this research project since it allows an in-depth examination of complex issues; and it suits the small-scale nature of the research and the limited time-frame and resources.

- The data collected from this research is not expected to apply to other academic libraries.

### 3.12 Summary

The research question addressed the aim and objectives of the study, which determined the research methodology; including data collection techniques; selection of the sample; the procedure for obtaining authorization for the research; and the use of questionnaires, interviews and observation to collect data worked to fulfilled the objectives of the research. The period of the investigation took place during the semester over a year. The case study designed was considered to be the most effective method of investigating the research question; allowing for detailed analysis of the issues raised in the literature review.
Chapter 4: Results

The study investigated the capability of The AJL at The UWI, St. Augustine Campus, to provide services to persons with disabilities. The objectives included an investigation on the effectiveness of the types of services provided; discussion on the main barriers to social and information access; a review of the basic problems regarding services and technological features of library users; identification of potential training for staff; and recommendations on improvements to the services offered.

4.1 Response Rates

The students’ questionnaire was emailed to 12 respondents and five (5) in the librarians. According to Bryman (2012), this 83% rate is acceptable in relation to Mangione’s (1995) classification of bands which is presented in Table 4.

Table 4

Mangione’s Classification of Bands of Response Rate

<table>
<thead>
<tr>
<th>%</th>
<th>Bands of Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 85</td>
<td>Excellent</td>
</tr>
<tr>
<td>70-85</td>
<td>Very good</td>
</tr>
<tr>
<td>60-69</td>
<td>Acceptable</td>
</tr>
<tr>
<td>50-59</td>
<td>Barely acceptable</td>
</tr>
<tr>
<td>Below 50</td>
<td>Not acceptable</td>
</tr>
</tbody>
</table>

Table 5 shows a breakdown of the response rates according to the types of disabilities from the students’ questionnaire. There was 100% response rate from 6 members of staff of the University that comprised five Librarians and the Co-ordinator of the SLDD.
Table 5

Response Rates by Types of Disabilities

<table>
<thead>
<tr>
<th>Types of disabilities</th>
<th>Number Sent</th>
<th>Number of responses</th>
<th>Response rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visually Impaired</td>
<td>4</td>
<td>3</td>
<td>75</td>
</tr>
<tr>
<td>Physically Challenged</td>
<td>4</td>
<td>2</td>
<td>50</td>
</tr>
<tr>
<td>Hearing Impaired</td>
<td>4</td>
<td>3</td>
<td>75</td>
</tr>
</tbody>
</table>

4.2 Objectives

Objective One

The first objective investigates the effectiveness of the types of services provided to students with disabilities. Questions 6 to 10 of the students with disabilities questionnaire (Appendix 6) sought to determine if the respondents were knowledgeable about the services offered, how effective the services were, and if the services were useful to them. Figure 2 showed that 50% of respondents were knowledgeable about the services offered to students with disabilities.
Figure 2. Respondents’ knowledge of services provided to persons with disabilities

Respondents that were knowledgeable about the library’s services for students with disabilities identified re-shelving of books; accessible desks; bibliography, photocopying and printing assistance; the ATL; and online books and software such as Job Access with Speech (JAWS) to assist the visually-impaired, as aides. Fifty percent were informed of these services from the SLDD; 25% from the library's orientation; and 25% from library staff. With respect to the two-part question (Appendix 6, Question 7); the majority of the respondents knew of the equipment designed for persons with disabilities (Figure 3).
Q. 7 Do you know if the Alma Jordan Library has equipment designed for students with disabilities?

![Pie chart showing 37% Yes and 63% No responses to question 7.]

Figure 3. Responses to question 7, ‘Do you know if the AJL has equipment designed for students with disabilities?’

The responses question 7 (Appendix 6) was coded and indicated, “bevelled desk for wheelchair users” (14.4%), “computer equipped for the blind” (28.4%), “Braille embosser” (28.4%), “Braille display” (14.4%), and “screen reader” (14.4%) as the types of equipment available at The AJL (Figure 4). However, 37.5% did not respond to part two of question 7 (Appendix 6).
Figure 4. Responses to the type of equipment available at The AJL

The respondents utilise the electronic resources and the borrowing facilities significantly (Figure 5).
Q. 8. Do you utilise any of the services provided by the library, which ones are of use to you?

![Bar chart showing responses to Q. 8.]

Figure 5. Responses to question 8, ‘Do you utilise any of the services provided by the library, which ones are of use to you?’

Staff, library orientation and SLDD were the highest level of responses for sources of information about The AJL library services (Figure 6).

Q. 9. How did you find out about these services?

![Pie chart showing responses to Q. 9.]

Figure 6. Responses to question 9, ‘how did you find out about these services?’
In response to question 10 of Appendix 6, the services that did not serve students with disabilities included online books in readable format and inaccessible shelves. Figure 7 shows the percentages.

![Figure 7. Responses to question 10, ‘Which services are not helpful to you, please explain?’](image)

Questions 1 to 8, 11 and 41 of Appendix 7 (librarians questionnaire), were used to assess the objective, ‘investigate the effectiveness of the types of services provided to students with disabilities’. The closed-ended “Yes/ No” responses to questions, 1, 3 and 6 are summarized in Table 6 by percentage. It is significant to note that all the librarians agreed the library have or provide services to persons with disabilities and there have been an increase in library usage over the five year period.
Table 6

Responses to Questions 1, 3 and 6 of the Librarians Questionnaire

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes (%)</th>
<th>No (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q. 1: Does the library have/provide services and/or equipment designed for persons with disabilities?</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>Q.3: Were any external special organizations consulted to help develop disabled services?</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>Q. 6: In your opinion, has the use of the library by patrons with disabilities increased in the past five years?</td>
<td>100%</td>
<td>0%</td>
</tr>
</tbody>
</table>

In responding to ‘yes’ for the external special organizations consulted to help develop disabled services, part two of question 3 in the librarians’ questionnaire (Appendix 7); the respondents stated that The Blind Welfare Association and the Torres Foundation were the agencies consulted to assist the library with service development.

The explanations for the increase in services for library patrons over the past five years (2010 to 2015) are outlined in Figure 8 from (Question 6, part A, Appendix 7). The respondents stated that this increase usage of the library was because of increase enrolment of persons with disabilities, improved services on the campus and mainstreaming of students with disabilities.
Figure 8. Responses to question 6 of the librarians questionnaire, ‘If yes, why do you think this happened?’

With regard to the promotion and marketing of the library’s services, responses from question 11 of the librarians’ questionnaire (Appendix 7), Figure 9 shows the results.
Figure 9. Responses to question 11 of the librarians’ questionnaire, ‘How have been disabled services and facilities been promoted and marketed?’

In response to questions 2 of Appendix 7, the increase intake of persons with disabilities by The UWI, and to cater for the diverse population of students motivate the introduction of disabled services at The AJL (Figure 10).
Figure 10. Responses to question 2 of the librarians’ questionnaire, ‘What motivated the AJL to introduce disabled services?’

In the process of implementing services for disabled library users, the organisation consulted a number of resources. The respondents to the librarians’ questionnaire (Appendix 7, Question 4) indicated that literature on best practice, standards and manuals were consulted for the development of the services (Figure 11).
Figure 11. Responses to question 4, ‘Were any manuals, books or documents consulted for the development of these services?’

Figure 12 outlines the responses to question 41 of the librarians’ questionnaire (Appendix 7). The results show the librarians’ knowledge of the services the library provides to persons with disabilities. The retrieval of items was the main service to persons with disabilities (Figure 12).
Table 7 summarizes the number and types of disabilities that were addressed through the provision of specialized library services and are responses for question 8 of the librarians’ questionnaire (Appendix 7). The survey shows that the services provided by the library are for

**Figure 12.** Responses to question 41, ‘which of the following library services for persons with disabilities are provided by the library?’
the blind and the visually-impaired (100%); the hearing impaired has the least specialised services of the library (33%).

Table 7

*The Types of Specialised Services Used by the Library*

<table>
<thead>
<tr>
<th>Types of disabilities</th>
<th>No. of disabled persons</th>
<th>Percentage of disability persons (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deaf and hearing impaired</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>Blind and visually-impaired</td>
<td>6</td>
<td>100</td>
</tr>
<tr>
<td>Physically challenged</td>
<td>4</td>
<td>66</td>
</tr>
</tbody>
</table>

In the interview with the IT Officer at The AJL, the question, “Why was the decision made to provide services to persons with disabilities?” was asked in fulfilment of objective 1. The respondent commented:

> The decision was made as a result of The University of the West Indies decision to enrol visually-impaired students in the 2005/2006 academic year. The Management of the University thus mandated The AJL to facilitate those persons. Therefore, the Torres Foundation Office for the Blind (an organisation that assists the visually-impaired to achieve their highest potential and an overall enhancement of life) was contacted since they successfully advocated special accommodations for persons with disabilities at the National Library and their proposals were implemented at the National Library. The Torres Foundation made recommendations for the purchase of a Braille Reader, Embosser, Printer and an Encloser.

**Objective Two**

The second objective of the study assessed the social and information access barriers for persons with disabilities. Questions 11, 13 and 14 of the students’ questionnaire (Appendix 6) explored the barriers that impinged on students who utilized the library’s services.
In response to question 11 of Appendix 6, 25% of the students did not respond to this question, while 75% selected responses from the options. Barriers to library use in room availability, directional signage, software, and library policy represented 18% respectively, a sub-total of 73%; the height of equipment, and the height of the circulation counter and bathroom facilities represented 9%, respectively (Figure 13).

![Pie chart showing responses to question 11](image)

**Q.11. What are the barriers to the use of services provided by the library?**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Room Availability</td>
<td>18%</td>
</tr>
<tr>
<td>Signage</td>
<td>18%</td>
</tr>
<tr>
<td>Software</td>
<td>10%</td>
</tr>
<tr>
<td>Height of Equipment</td>
<td>9%</td>
</tr>
<tr>
<td>Height of Circulation Counter</td>
<td>18%</td>
</tr>
<tr>
<td>Bathroom Facilities</td>
<td>9%</td>
</tr>
<tr>
<td>Library Policy</td>
<td>9%</td>
</tr>
</tbody>
</table>

*Figure 13. Responses to question 11, ‘What are the barriers to the use of services provided by the library?’*

The researcher noted that the actual measurement of the loans counter was 30 inches at its lowest and 41 inches at the highest point. However, this counter remodelling was completed in the last month of writing this dissertation, after the completion of the survey. The Help Desk
at measured 43 inches (this was not changed). There are queueway and tensabARRIER line stanchions partition for the queues at the Circulation counters (Figure 14).

Figure 14. Photography showing the Queueway and TensabARRIER Line Stanchions partition at the Circulation Desk

Students with disabilities respondents were required to indicate, from the list of items outlined in question 14 (Appendix 6), if physical barriers were reduced to make library collections and services more accessible. There was a low response rate 20% the respondents indicated that physical barriers were reduced by adequate provision of elevators, computer workstations, and the ATL (Figure 15) 40% indicated the provision of ramps outside the library reduced the barrier to access the services of the library. Students with disabilities did not indicate signage as a barrier. However, the researcher observed divisional shelf label is different on each subject division within The AJL. The Humanities and Education division used 48 and 60 bold Times New Roman font for call number labels and subject headings respectively; the Social Sciences division also used Times New Roman 59.5 font size for call numbers and subject
labels. The other divisions used Gaylord shelf labels holders which measures 11.5 by 12 centimetres. The AJL guidelines does not specify requirements for library displays, it states, “space with care and ensure that the type ribbon is in good condition for maximum legibility”.

Figure 15. Photographs of the Assistive Technology Lab

The librarians’ questionnaire assessed the objective to discuss the main barriers to social and information access for persons with disabilities) by questions 5, 7, 10, 12 to 27, 42, 45 to 46 (Appendix 7).
In question 5 of the librarians’ questionnaire, 50% respondents noted that funding was an obstacle encountered in the implementation of library services at The AJL for persons with disabilities. Thirty-eight percent of respondents stated space as an obstacle and the remaining 12% noted software was an obstacle of implementing library services to persons with disabilities (Figure 16).

The closed-ended questions with “Yes/No” responses to questions 10, 12 to 27 are presented in the bar chart in Figure 17).
Figure 17. Responses to librarians' questions 10, 12 to 27
According to the librarians, the parking areas, pathways and entrances to the library were wheelchair accessible; the ramps and elevators provided alternatives to the stairs; and the elevators had both auditory and visual signals to identify floors. This indicates that persons with disabilities had easy access to and within the library. The survey shows that the library had initiated steps to heighten the awareness among library staff on the special needs of patrons with disabilities. The study found that doorways were at least 32 inches wide and were clear of protruding objects that enabled persons with disabilities to easily navigate through the library. The findings also showed that study rooms and study carrels were available for the physically challenged who needed to bring their personal computers or assistance of a reader (Figure 17). Observations did not reveal that the doorways were cleared of protruding objects; it showed objects protruding at the entrance of the library. The widths of the doors on entry measured 39 inches but are not automatic and the exit doors considering the 3M machine measured 37 inches (Figure 18)

Figure 18. Photography showing the entrance and exit to The Alma Jordan Library
It can be seen from the survey that 83% of respondents indicated elevator controls were not marked in large print, Braille or raised notation; 67% of respondents reported knowing there was an absence of shelf and stack identifiers in large print.

The survey showed that 83% of respondents noted that wheel-chair accessible restrooms were not easily identified in, or in close proximity to, the library. There is a need to highlight accessible marked restrooms for persons with disabilities. The study tells us that the service desk and facilities, for example the book returns, are inadequate for persons who are physically-challenged and wheel-chair bound (Figure 19).

*Figure 19. Photography showing the book returns\ deposit for The Alma Jordan Library*
Question 7 for the librarians’ questionnaire (Appendix 7), respondents identified the elimination of physical barriers; the addition of specialized equipment; the provision of staff devoted to provide support services; the addition of wheelchair access to the washroom under the response of other representing as well as adding specialized library services. Figure 20, represents the percentage of responses.

Q. 7. Indicate areas in which the library has made improvements in library accessibility for patrons with disabilities during the past five years?

- Elimination of physical barriers (37%)
- Addition of specialized equipment/adaptive technologies (18%)
- Adding specialized library services (9%)
- Staff devoted to providing service for patrons with disabilities (27%)

*Figure 20. Responses to question 7 of the librarians’ questionnaire, ‘Indicate areas in which the library has made improvements in library accessibility for patrons with disabilities during the past five years?’*
Sixty-six percent of the librarians who responded stated that the library offered library tours for disabled users of the library and facilities; whereas 34% noted there that the library does not offer tours of persons with disabilities (Figure 21).

Figure 21. Response to question 45 of the librarians’ questionnaire, ‘Do you offer disabled users tours of the library and facilities including teaching exercises in how to use special equipment?’

A large percentage of respondents (questions 42, 46, and 47, Appendix 7) noted that there were no speech synthesis and minimal print enlargement on the online catalog. Further, respondents indicated that the electronic resource and website do not offer clear navigation paths (see Table 8).
Table 8

*Responses to Questions 42, 46 and 47 of the Librarians’ Questionnaire*

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes %</th>
<th>No %</th>
<th>No Response %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q. 42. Is the library's online catalog equipped with:</td>
<td>50</td>
<td>33.3</td>
<td>16.7</td>
</tr>
<tr>
<td>(a) Print enlargement?</td>
<td>16.7</td>
<td>66.7</td>
<td>16.6</td>
</tr>
<tr>
<td>(b) Speech synthesis?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q. 46. Do electronic resources with images and sound provide text</td>
<td>100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>alternatives to these formats? Is the design consistent with clear</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>navigation paths?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q. 47. Can the library's electronic resources including online</td>
<td>83.3</td>
<td>16.7</td>
<td></td>
</tr>
<tr>
<td>catalogs, indexes, and full-text databases and CD-ROMs be accessed with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a variety of adaptive computer technologies such as screen readers and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>speech synthesis?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Objective Three**

Objective three assessed the basic problems of services and technological features with regard to library users with disabilities. This objective was measured using questions 15, 16, 17 and 18 of the students’ questionnaire (Appendix 6).

Question 15 in Appendix 6, “Do you utilise the library’s electronic resources?” comprised three parts; parts two and three were conditional upon responses to the first part of the question.

Figure 22 presents the percentage of responses to the first part of the question.
Figure 22. Responses to question 15, ‘Do you utilise the library electronic resources?’

The responses to subsequent parts of the open-ended question 15 (Appendix 6) indicated by the students' responses, stated that the “computer rooms”, “at home”, “at the workplace”, “in the library and “wherever they are needed while studying” were used to access the electronic resources. However, the students who did not use electronic resources indicated that they were “unable to navigate the databases and they do not know how to use them”, among other reasons.

The first part of the question 18 in Appendix 6, “Do you encounter any problems using the electronic resources?” allowed the respondents to select either a “yes” or “no” answer; the following response to part of the question was conditional upon a “yes” response to the previous part of the question. Most of the respondents (63%) encountered problems using electronic resources (Figure 23).
Figure 23. Responses to question 16, ‘Do you encounter any problems using the electronic resources?’

Question 16 part two (Appendix 6) investigated whether the respondents had any technological challenges and if these challenges were personal, or if the issues surrounded the library's provision of the services to the disabled. The 62.5% who responded "yes" to this question, two (2) respondents provided specific details on the problems encountered which included:

- Height of the printing stations
- Online books and e-journals were inaccessible in readable formats
- Changes to the Website were implemented, but the visually-impaired were not informed
- Navigation of the Website was difficult.

A two-part question 17 (Appendix 6) assessed whether persons with disabilities attended the library’s orientation session for new students at the beginning of the semester. The results are shown in Figure 24. One possible explanation for the low attendance rate is the marketing and promotion of the sessions to persons with disabilities.
Figure 24. Responses to question 17, ‘Did you attend any library orientation sessions?’

In question 9 (Appendix 7), librarians were asked to state based on the services the library implemented for persons with disabilities thus far what was the response from students with disabilities. This was an open-ended question to assess the views of the respondents. The results showed that there has been a positive response to the services provided (Figure 25).
Figure 25. Responses to question 9 of the librarians’ questionnaire, ‘Based on the services that you provide now, what has the response been so far from disabled users?’

The results of the librarians’ question 36 (Appendix 7) is shown in pie chart (Figure 26). Sixty-seven percent of respondents indicated separate rooms are set aside in the library for persons with disabilities and 33% stated scattered individual workstations are also used.
Figure 26. Responses to question 36, ‘what space does the library set aside specially for those library users with disabilities?’

Table 9 presents the response rate for questions 38 and 39 of Appendix 7.

Table 9

Responses to Questions 38 and 39 of the Librarians’ Questionnaire

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q. 38. Does the library have a written description of services for patrons with disabilities, including procedures and information on how to request special accommodations</td>
<td>66</td>
<td>34</td>
</tr>
<tr>
<td>Q. 39. Have the policies for providing services for library patrons with disabilities been revised in the past five years?</td>
<td>17</td>
<td>83</td>
</tr>
</tbody>
</table>
It can be denoted from Table 9 that 66% of the librarian respondents stated “Yes”, that the library had a written description of services for persons with disabilities, while the remaining 34% stated “No”. However, 83% of the librarians stated that the policies were not changed in the past five years, while 17% stated that the policies were changed within the five-year period. In any event, there was no evidence of a written policy on persons with disabilities. The evacuation procedure guide; a memorandum on services for the visually-impaired dated September 2009 detailed the equipment located in the ATL; and a two-page document by the W. R. Torres Foundation for the Blind on effective ways to assist the visually-impaired. The latter two documents were in the Information Folder at the “Help Desk”, Circulation and Access Services.

**Objective Four**

Objective four sought to identify potential training required by staff. This objective was assessed by question 19 of the students’ questionnaire (Appendix 6). Part 2 of the question sought to determine what type of training was required from the perspectives of the persons with disabilities for library staff. Figure 27 shows that 88% of the respondents felt staff training was required, while 12% felt there was no requirement for staff training.
Figure 27. Responses to question 19, ‘Do you think training is needed for the staff?’

The SLDD Co-ordinator commented in the interview that:

No training is provided for library staff. In the past, we conducted a sign language course for members of the Campus community and the library staff was invited to be trained but this was on a voluntary basis. A couple of them took the opportunity.

Further, in the interview with the IT Officer at The AJL, it was stated that:

Some training hours were negotiated into the package from the software provider for The ATL. The training was provided for the Circulation and Access Services and the Information Technology staff of the AJL as these individuals interacted with the persons with disabilities greatly.

The librarians’ questionnaire (Appendix 7) explored this objective by questions 28 to 35. The closed-ended questions, 30 to 35, with “Yes/No” responses are presented in the bar chart in Figure 28.)
According to the results from the survey, there was a staff member assigned to coordinate the activities for persons with disabilities; the majority of staff was aware of the issues that persons with disabilities faced. The results indicate a need for refresher courses to update the
skills of members of the library staff who are required to assist students with disabilities (Figure 29). Most of the respondents noted that the training is provided by the SLDD and IT Staff.

Figure 29. Responses to question 28, ‘Who conducts training for library staff in providing specialized services and in the use of equipment designed for use by persons with disabilities?’

From the survey, 20% of the librarians stated the “Circulation Department”, “Library Liaison Librarians”, “Support Staff” and “Patrons with disabilities” attend the training sessions in the use of equipment for persons with disabilities respectively. Ten percent specified “Information Technology personnel”, while 10% responded “none of the above” (Figure 30).
Objective Five

The objective ‘recommend improvements to the services for persons with disabilities’ was assessed by questions 12 and 13 of the students’ questionnaire (Appendix 6) which sought to identify the service areas that required improvement for persons with disabilities at The AJL as the main library, as well as the campus. According to the findings, the AJL does not adequately provide facilities for persons with disabilities. Questions 12 and 13 were open-ended questions that allowed the respondents to specify the service areas in Figure 31 that required improvement.

Figure 30. Responses to question 29, ‘who attends these training sessions?’
Q. 12. Is there any way that services can be improved for students with disabilities at the library?

- E-Books for the Blind (15%)
- Room Availability (4%)
- Structural changes to Building (11%)
- Promotion of Services (4%)
- Accessible desk (12%)
- Equipment Improvement (4%)
- Staff Assistance (12%)
- Book Retrieval System (11%)
- Signage (4%)

*Figure 31*. Responses to question 12, ‘Is there any way that services can be improved for students with disabilities at the library?’

The majority of respondents noted that E-books for the blind, accessible desk, promotion of services, structural changes to the building, signage and improved equipment among the services to be improved at The AJL (Figure 31).
In terms of recommendations for service improvement, the library's Information Technology Officer who was interviewed concluded that,

The AJL library needs to upgrade the technology that exists in the library but on the advice of the Torres Foundation, since they were our initial consultants on the project and they are the experts in this area. We also need to source other vendors, since we were pigeon hold into buying from a single vendor. Some of my other recommendations would include increased funding for ATL upgrading, promotion of the resources, and a process of inclusion of the students with disabilities among the other patrons.

The librarians’ questionnaire (Appendix 7) assessed the objective of recommending improvements to the services for persons with disabilities with open-ended questions 51 to 53. The researcher encountered difficulty coding and quantifying this question, thus the varied responses which are outlined below:

Question 51: What changes/improvements would you like to see adopted within the AJL?

Responses included:

- additional equipment
- policy for ATL
- liaising with The SLDD to upgrade the services for the blind
- new services for the hearing impaired and persons with learning disabilities
- training staff in the use of equipment
- lower counters
- larger rooms.
Question 52: Does The AJL have any immediate plans for the future with respect to disabled users?

The following were identified:

- Staff training
- Increased equipment
- Collaboration with The SLDD.

Question 53: Are there any special services you would like to see introduced?

Respondents indicated:

- Services for the hearing impaired
- Trained staff in sign language
- Information Literacy training for the persons with disabilities
- Dedicated staff assigned to disabled persons
- Accessible photocopiers
- Updated equipment and software.

4.3. Summary

In this chapter, results of the study were presented according to the research questions. The capacity of The AJL to provide to the needs of persons with disabilities was identified and depicted using questionnaires, interviews and observations with students and academic staff from The UWI. The identification of the needs of persons with disabilities assisted in identifying gaps and barriers that exist at The AJL to find a way of enhancing their capacity to make them better able
to respond to expressed needs. The views of the academic staff of The AJL, students with disabilities and the Co-ordinator SLDD solicited on service, problems and reconciliation confirmed that there is a need for The AJL to re-think its information service provision relating to persons with disabilities.
Chapter 5: Discussion

5.1 Introduction

This dissertation aimed to investigate the capacity of The AJL, The UWI, St. Augustine to serve the students with disabilities in terms of provision of physical access, availability of appropriate facilities, resources and services and the provision of web access. The major sections of this chapter summarise the results and discuss their implications. The findings from each objective are related to the existing literature, where relevant.

5.2 Objective 1: To investigate the effectiveness of the types of services provided to students with disabilities

The findings are consistent with research which states the importance of libraries having assistive technologies for students with disabilities to enhance functionality (Adetoro, 2011; Babalola et al., 2011; Copeland, 2011; Imam, 2013; Lucky et al., 2013), even though some may not continue their schooling at university because of difficulties in primary and secondary school (Sehic & Tanackovic, 2014). The results suggested that use of equipment is underutilised concurring with research findings of Mates (2011) and Tilley et al., (2007) that indicate non-use or underutilisation virtual and physical facilities. The analysis does not enable us to determine the reasons for the non-use of assistive technologies since the increase use of adaptive technologies improved their independence and increase opportunities for students with visually disabilities to locate and use information (Sehic et al., 2014). Researchers have indicated a number of possible explanations such as students with disabilities disbelief that they are welcomed in libraries (Akolade et al., 2015; Mates, 2011) because of the assumption that
nothing exist for disabled students; uncertainty of librarians ability to communicate and negative passed experience (Deines-Jones, 2007; Saar & Arthur-Okor, 2013); the lack of consumer involvement in the selection of the devices since each user have a unique set of needs and expectations (Guder, 2012; Moore, 2002; Seyama, 2010; Viney 2006) as well as lack of training for students with disabilities in using the technology (Tilley et al., 2007); constraints by the formats and delivery of information (Tilley, 2009); and a lack of marketing and promotion for awareness of the existence for the technology (Guder, 2012; McCaskill et al., 2001).

What is noteworthy, about the results, is that the marketing and promotion of these services are not conducted of SLDD. Researchers (Hazidan et al., 2012) note that the services should be marketed and promotion by the library since respondents acknowledge that they received the necessary from library staff during interaction and library orientation sessions respectively. Hence, supporting the existing literature by Heery (1996) for the promotion and marketing of services by library staff and other departments. The results also concurred with the findings by Chew et. al. (2002) which notes that library promotions can be ineffective in attracting students with disabilities particularly wheelchair bound persons.

The data obtained states that students with disabilities is allocated areas to the first floor of the building and feels restricted being relegated to areas and prefers areas that were more conducive to interaction is inconsistent with research findings that indicate that a small room should be provided once funding is available for privacy and benefit of using the speech to text software (Guder, 2012).
Many of the comments reflected those in the literature for a book delivery services to users, assistances with photocopying and printing, longer book loan periods, assistance retrieving materials from stacks, comfortable workstations, elevators, and appropriate colour and lighting (Heery, 1996; Lawal-Solarin, 2013; Momodu, 2013; Samson, 2011; Wood-Lamont et.al., 2012). Based on the results, it can be concluded that there is some discrepancy between the services offered at The AJL and that stated by ALA Library Services of People with Disabilities (2001), which reiterate the need for academic libraries to provide extended loan periods, waived fines and delivery services of students with disabilities.

However, The AJL has not contravene any of the local legislation, the NALIS Act of 1998 which includes public libraries, international legislation including the DDA, ADA and ALA in terms of denying access to persons with disabilities. However, the results do suggest that the management of the organisation are familiar with the guidelines and established laws that mandate the services and resources needed for persons with disabilities as concurred by Power et. al. (2009). Further, the requirements of the services many change over a period of time (Pinder, 2005).

5.3. Objective 2: To discuss the main barriers to social and information access for persons with disabilities

The level of awareness of the barriers that prevented use of The AJL’s resources was high as respondents identified the availability of rooms, directional signage, library policy, heightened equipment and loans counters, as well as limited washroom facilities as hindrances. These findings are consistent with Huggins’ (2015) concerns about environmental barriers and access to the library that included inadequate washroom facilities. The literature recommends
that there a number of minimal strategies the implementation of basic facilities by the library’s administration to assist persons with disabilities (Heery 1996; Igwebuike et al., 2015; Momodu, 2014; Wood-Lamont et al., 2012).

The entry and exit doors to the library are not automatically powered, thus the first obstacle as students have to push and manoeuvre through the heavy doors. The findings are largely the same highlighted in the literature review which states that the architectural designs for library buildings did not take the physically challenged into account (Imam 2013; Lawal-Solarin 2013; Okoli 2010; Viney, 2006; Wijayaratne et al., 2011). The data obtained are consistent with literature that persons with disabilities with physical challenges encounter problems accessing academic libraries (Copeland 2011; Samson 2011; Tinerella et al. 2015). This underscores the importance of power-doors, directional signage and a barrier-free lobby in academic libraries to create a welcoming atmosphere, and to develop positive relationships with these students (Samson 2011). These findings reflect concerns in the library about the environmental barriers to accessing the library buildings and inadequate bathroom facilities (Huggins, 2015).

These findings from this study concur with studies from other researchers (Imam, 2013; Lawal-Solarin, 2013; Okoli, 2010; Viney, 2006; Wijayaratne et al., 2011) show that library services and accessibility are not adequately provided for by libraries for persons with disabilities. The stairs and elevators were the mechanism to facilitate movement from one floor level to another. Ramps existed outside the building for entry and exit to and from the library.

On another note, although existing literature reports that colour, lighting and contrast can impact individuals with visual disabilities (Bright et al., 2010; Igwebuike et al., 2015), this
research did not provide any evidence of poor colour impacting on the sensory impairments of the visually-impaired.

5.4. Objective 3: To highlight basic problems regarding services and technological features of library users with disabilities

The findings are the same as those highlighted in the literature by Zia and Fatima (2011) which indicates a large number of persons with disabilities used the computer for educational purposes. The data obtained showed that the problems encountered are consistent with the research findings (Kumar & Sanaman, 2015; Zia et. al, 2011) in terms of the weaknesses of the software, text to speech converter, audio on websites and special software.

These findings are quite surprising and suggest even though the catalogue in the case study is web-based it does not have the capability to be used by visually-impaired students as research shown by Kumar et al. (2015). Other studies by Tilley (2009) concur that persons with disabilities have additional needs that are particular to their disabilities but are constrained by the formats and the delivery mechanisms that are used to access the information needed as students in an academic environment. An important implication of these findings is the development of standards for accessibility as indicated by research of Akolade (2015) as well as enabling the visually-impaired to have access to the same information as sighted individuals (Craven, 2009; Loiacono, 2003; Wijayaratne et al., 2011). The research indicates that universally-designed access will benefit all students (Osifuye et. al., 2014).

In contrast to some reports in the literature, Majinge et.al. (2013), there is indication that there were no policies regarding library service for persons with disabilities and no plans to formulate these policies at The AJL. An important implication of this finding is that policies and procedures should be clearly written to guide the planning and implementation of services
(Igwebuike et. al., 2015; Tineralla et. al., 2005) and the induction of persons with disabilities throughout the year (Heery, 1996).

The data obtained is consistent with the major trends in libraries of the inadequacy of directional signage in Braille or tactile (Heaven, 2004; Bigdeli, 2009; Lawal-Solarin, 2013). The results concur with studies which have shown that shelf labelling are too high and illegible and signs must be bold and placed at a visible level for persons with disabilities (Heaven, 2004). In contrast to some reports in the literature which indicates the need for directional signage in Braille, tactile or coloured at the main entry doors to assist students to be independent (Huggins, 2015; Igwebuike et. al., 2015), the survey results did not indicate this trend in the study. From the research that has been conducted, it is possible to conclude that Braille and tactile signage is one possible recommendation.

5.5 Objective 4: To identify potential training methods for staff

Of the literature reviewed, there were no studies conducted in academic libraries in Trinidad and Tobago and by extension, the Caribbean that sought to ascertain the training needs for staff who serve persons with disabilities.

The results obtain are compatible with earlier research that not much has been written on staff training to address persons with disabilities (Lipschultz, 2010). Thus, there were no best practice criteria as benchmarks for the development of staff training programmes which researchers Babalola et. al., (2011) and Hernon et. al., (2006) notes is important. This further suggests that policies and procedures should be implemented to benefit of persons with disabilities for the use of rooms and equipment and as a guide for planning for the provision of
additional library services for students with disabilities (Chard et al., 1998; Heery 1996; Igwebuike et al., 2015).

ALA suggests that libraries should provide opportunities to sensitize all staff and not only those who interact regularly with students with disabilities to the issues, and teach effective strategies to provide services to library users with disabilities.

It was evident from the survey results that library’s administrators did not have plans for training of staff and librarians to treat with the special needs of library users with disabilities as research by Nelson (1996) indicates. The library therefore needs to take into consideration the multiplicity of individuals with disabilities who require specialized services (Rutledge, 2014). In the interim, staff should take advantage of the training opportunities offered by professional organisations like Association of Specialized and Cooperative Library Agencies (ASCLA), a division of ALA, tool kit tip sheet that offers advice, support, and educational programmes to work with patrons with disabilities to enable them to be better equipped to anticipate and address the needs of this population (Mates, 2011).

Lack of training in academic libraries for librarians working with users with disabilities are not new and this had a genesis in the training provided by library schools curricula in developing countries (Almena, 1993). Thus, the initiation of the training should be with the library schools inculcating the training in their curriculum and further reinforcement of the training with the professional organisations such as ALA in terms of continued professional training for librarians and recent graduates as a mechanism to deal with users with disabilities. Since the results of the survey states that there are not any refresher courses provided for staff to upkeep their skills. The results are therefore consistent with the findings by Wallace (2007),
indicating the need for paraprofessional training courses and library programs in the Caribbean to include courses on users with disabilities in its program offering. In contrast to reports in the literature, alternative in-house strategies were suggested for effective training of library staff to treat with users with disabilities. In conjunction with the traditional training methods, on-the-job training programs can be developed (Hernon et al., 2006) and provided by voluntary sectors (Beaton, 2005).

Investment in training librarians and other library staff for service to patrons with disabilities should ensure that staff are knowledgeable about servicing the needs of the disabled in terms of the use the equipment and referrals to other professional offices, where required (Mates, 2011). However, the analysis does not reflect any “bad attitudes” of library staff and if such attitudes exist the implications for service and training development. These results are inconclusive since only one respondent stated that need for sensitivity and awareness training security personnel which will concur with other studies by Akolade et. al. (2015) and Dequin et. al., (1988) research.

5.6 Objective 5: To recommend improvements to the services for persons with disabilities

The services that require improvements to facilitate the needs of persons with disabilities including services for the hearing impaired such as staff trained in sign language, accessible photocopiers as well as increased assistance, OPAC stations, computer desk to adequately accommodate the physically-challenged, updated equipment and software, a delivery and retrieval systems of requested items from stacks, extended loans over the regular stipulated periods, a liaison librarian to co-ordinate the activities of persons with disabilities, auditory signals in the elevator and an improved system to facilitate the use of electronic resources by the
visually impaired. These recommendations demonstrate the need for the library’s administration to improve on and increase the number of services offered, as well as upgrade the library’s structure to better facilitate users with disabilities.

There is also need to publicise the library’s services as they relate to the disabled. Previous researchers have indicated that promotion and marketing are important to improve the image and credibility of the library (Hazidah et. al., 2012). It is therefore imperative that the marketing and communications strategies advertise the library’s information and recreational materials with the support of well-trained and helpful staff to serve its users with disabilities (Mates, 2011). Marketing assists in achieving high levels of customer satisfaction (Jose et al., 2007).

The results show the patrons with disabilities knew of the services of The AJL from word of mouth “buzz” marketing which is consistent with other research and theory that show creating a buzz is free, effective and creates public awareness and support for library projects, introducing new technologies and assistive technologies (Mates, 2011).

The study reinforces the need for the introduction of appropriate directional signage to guide persons with disabilities to facilitate independent use of the library’s facilities (Bigdeli, 2009; Igwebuike et al., 2015; Lawal-Solarin, 2013).

**5.7 Conclusion**

This investigation proposed to ascertain the capacity of The AJL as an academic library to serve users with disabilities specifically provision of physical access, availability of appropriate facilities, resources and services and the provision of web access. Library administrators and professionals are aware of the current challenges involved in assisting persons
with disabilities to find information that they require in an accessible format. The fundamental issues are similar. There is need for increased awareness and promotion of inclusive standards that benefits all individuals to use the library services. The conclusion chapter presents a summary of this investigative research study and highlights the important factors that impact on the library’s service disabled users of its facilities.
Chapter 6: Conclusions and Recommendations

6.1. Introduction

The aim was to investigate the readiness of the Alma Jordan Library in the provision of services to persons with disabilities and to assess their capability to deliver this service. This was investigated through five objectives which were measured using a case study design. This chapter reflects on whether the objectives have met the aim of the research, assesses the effectiveness of the methods used to conduct the research and considers the overall contribution of the research. Finally, it includes recommendations for improving current service delivery. The researcher presents conclusive statements on the reviewed theories and concepts in the literature.

6.2 Conclusions

6.2.1 Aims and Objectives

- Objective One: To investigate the effectiveness of the types of services provided to students with disabilities

The findings indicated that the services offered by the AJL are effective to a certain extent but suggest that libraries are not always capable of providing adequate services to persons with disabilities.

- Objective Two: To discuss the main barriers to social and information access for persons with disabilities at the Alma Jordan Library, The University of the West Indies, St. Augustine.
A comparison of the survey data and the review of the literature provided an overview of the social and information barriers at the AJL. The results answered the research question showing that academic libraries have an important role to play in providing access to persons with disabilities to ensure their academic achievement.

- Objective Three: To highlight basic problems regarding services and technological features of library users with disabilities

The respondents felt that providing services and the adequate use of technology were a core part of the academic library service provision. It was indicated that any impact The AJL had on service provision should be positive. The survey results highlighted the importance of providing effective services and improved technological features.

- Objective Four: To identify potential training methods for staff

The survey results and arguments reflect those in favour of training for staff in the literature. This objective related to the research aim in that it highlighted shortcomings of training and provided ideas to allow academic libraries to deliver services to persons with disabilities effectively.

- Objective Five: To recommend improvements to the services for persons with disabilities at the Alma Jordan Library.
This study reinforced the recommendations for the introduction of effective programmes for persons with disabilities in the Trinidad and Tobago and the Caribbean region. And were used as inputs for the research recommendations highlighted at the end of this chapter.

6.2.2 Methods

The deployment of mixed methods in quantitative and qualitative collection data case study research design was an effective method for studying the issues identified in the literature review and allowed a detailed examination of that data from survey questionnaires and focus group interviews in case studies of person with disabilities and their service providers (librarians, library assistants, library attendants and staff of SLDD).

The case study designed allowed detailed examination of the issues. The mixed method data collection combined the advantages of easily comparable quantitative data with valuable qualitative data from interviews. If time allowed more interviews would have been conducted, for example, with the Campus Librarian. The questionnaires too, though piloted, presented a variety of challenges at the analysis or discussion stage. The chosen mixed methods did allow for successful investigation of that addressed the objectives of the study.

6.2.3 Research Value

While the case study approach yield results specific to the AJL and are therefore not representative of the other academic libraries that comprise the campus libraries, the other academic libraries and public libraries in Trinidad and Tobago and the region; all institutions are faced with similar challenges. It is hoped that other service institutions can benefit from the findings from this research as persons with disabilities are increasingly widespread and emerging
as a societal concern. The provision of specialized services is therefore of paramount importance to persons with disabilities.

6.3 Recommendations

It is important for academic libraries and information centres to make information accessible to all categories of persons with disabilities in society. Librarians and libraries have an obligation to provide access to the information that persons with disabilities need to participate in the emerging information society (Babalola et al., ). The following recommendations can overcome some of the issues revealed in the research.

Policy Review

A review of library policy to reflect the library commitment to library and information provision to the visually-impaired, the hearing impaired and the physically challenged. A formal documented policy is important to guide acquisition, budget allocation and staff training (Babalola et al., 2011). As well as clear policy for the use of specialised room and adaptive equipment (Tinerella et. al., 2005). Library staff should be also made aware of any new policies implemented.

Staff Training

Training of librarians and support staff is important for optimum performance. Librarians and staff need to be trained on how to relate to persons with disabilities (Babalola et al., 2011; Roy et al., 2009) and in the use of assistive technology (Guder, 2012). Training theoretical can be one approach with the ALA tool kit tip sheets that will assist staff in feeling more comfortable
serving persons with disabilities as well as working with the actual patrons”; confidence will be established. Included in the training is staff sensitivity training so that they are aware of how to provide service in a welcoming, responsive, appropriate and helpful manner. This is the first step in creating an accessibility plan for persons with disabilities (Mates, 2009). Alongside the training is the hiring or training a staff member to be a sign language interpreter.

**Investment in Assistive technology**

Investment must be prioritised in these technologies so the clientele with disabilities can benefit from the resources (Babalola et al., 2011). The purchase of a Braille printer and voice recognition software to assist visually impaired student.

**Advisory Committee**

The formation of an advisory committee consisting of a cross-section of library administrators, librarians, IT technicians, library assistants and attendants, a member of SLDD, a member of each disabled group (Mates, 2009) and the appointment of a library liaison. The library coordinator will be responsible for ensuring that staff receives ongoing training on all devices and are able to train patrons on the use of these devices, as well as responsible for coordinating all the assistive technology that the library owns. Further, the coordinator can network with peers and remove the feeling of working in a vacuum. One such alliance is through the LSSPS of the ASCLA.
**Automatic Doors**

Insulation of automatic doorways up to or wider than 32 inches or a knob on the outside to press for opening by persons with disabilities.

**Adjustable Work Tables**

The purchase of adjustable work tables that can be raised or lowered depending on the need for the computer rooms and the ATL room.

**Clear Pathways**

Clear demarcated and consistent pathways to the elevators with the insulation of carpets with delineated edges on all floors to prevent tripping hazards for the visually-impaired students

**Loans**

Longer loan periods for persons with disabilities and also a delivery book system.

**Signage**

Signage visible to all library users. Signs should be large and bold print placed at a level that is visible (Babalola & Yacob, 2011; Seyama, 2011; Tinerella et al., 2005). The use of large and bright directional signage in Braille for the visually-impaired (Tinerella et. al., 2005) should be standardised throughout the organisation As well as Braille signage on the entrance and exit doors of the library

**Circulation Counters**

A complete redesign of the circulation and access service desk (Wood-Lamont et al., 2012) with the height of the counters to serve wheelchair users.
Website

Design of the website and making the website accessible (Wood-Lamont et al., 2012) with a list on the library website that lists the software and hardware available and the location of these tools (Guder, 2012).

Marketing and Promotion Campaign

Brochures, posters, displays in departmental offices, homegrown tutorials or screencasts podcasts and social networking sites, for example Facebook, can assist in overcoming the challenges of underutilization of library services and market assistive tools (Guder, 2012). Campus-wide advocacy programs (Tinerella et al., 2005) in conjunction with the Marketing and Communications Department and SLDD for meetings and brown-bag lunch sessions (Guder, 2012).

Legislation

An evaluation of existing legislation in Trinidad and Tobago as it applies to persons with disabilities in the education system as well as in public and academic libraries. The implementation of the revised laws should reflect legislations of developed countries such as the USA, Sweden, and Denmark for reasonable accommodations to meet the needs of persons with disabilities; and include policies of the ALA that recognise the role of libraries to treat with persons with disabilities. Examples of legislations from the United States of America include Sections 504 and 508 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990 (Mates, 2011; Tilley, Bruce & Hallam, 2007).
Research

Further investigative research in relation to persons with mental, speech and other learning disabilities in each sub-library of the UWI St. Augustine Campus Libraries: at the School of Education, Medical Sciences, Institute of International Relations, Open Campus, Arthur Lok Jack Graduate School of Business, as well as in other academic libraries in Trinidad and Tobago, and even in the Caribbean region.

6.4. Summary

The researcher confirmed that, in accordance with the literature, like other academic libraries, The AJL has shortcomings with regard to the provision of specialized services to persons with disabilities. However, in accordance with the literature, if there is a clear structure for service provision; well-informed, trained staff; and technological initiatives, the challenges facing patrons with disabilities can be overcome. Therefore, the researcher highlighted recommendations to curtail the shortcomings of an academic library in the Caribbean region.
References


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Publishing.


Appendix 1

Letter of consent for The Campus Librarian, The Alma Jordan Library, The University of the West Indies, St. Augustine

Ms. Jennifer Joseph
The Campus Librarian
The University of the West Indies
St. Augustine

Dear Ms. Joseph,

I am a Masters student at Aberystwyth University, Wales, United Kingdom investigating the readiness of the Alma Jordan Library (AJL) to provide services to the students with disabilities on The University of the West Indies, St. Augustine Campus. This project will be conducted under the supervision of Dr. Hugh Preston, Aberystwyth University.

I am seeking your permission to conduct the research because of the valuable contribution you can make in terms of determining whether the services that are provided by the AJL, meet the needs of students with disabilities, that is the physically challenged and the visually-impaired needs or not, and to identify barriers that they encounter and make recommendations for service improvement as it is the vision of the University Libraries to be “an organization with a commitment to service quality in support of the learning, teaching and research needs of The UWI community, the wider Caribbean region and beyond”.

I commit myself to keeping the information provided confidential.

I appreciate your agreeing for The AJL to participate in this research. If you have any questions about the research study, please feel free to contact me.

Thank you

Yours Sincerely,

UNIKA OMOWALE
Appendix 2

Letter of consent for the Student Life and Development Department Coordinator

Dear Participant

I am a Masters student at Aberystwyth University, Wales, United Kingdom investigating the readiness of the Alma Jordan Library (AJL) to provide services to the students with disabilities on The University of the West Indies, St. Augustine Campus.

I am inviting you to participate in the research because of the valuable contribution you can make in terms of determining whether the services that are provided by the AJL, meet the needs of students with disabilities, that is the physically challenged and the visually-impaired needs or not, and to identify barriers that they come across as they seek to use the library.

If you agree to participate I would like to interview you. I commit myself to keeping the information you provide confidential. You have a right to withdraw at any point of the study, for any reason, and without any prejudice.

There are no known risks from being in this study. Taking part in the research is completely voluntary.

I appreciate your participation in this research. If you have any questions about the study itself, please contact me.

Thank you

Yours Sincerely,

UNIKA OMOWALE
Appendix 3

Letter of consent for the Professional Staff of The AJL

Dear Participant

I am a Masters student at Aberystwyth University, Wales, United Kingdom investigating the readiness of the Alma Jordan Library (AJL) to provide services to students with disabilities on The University of the West Indies, St. Augustine Campus.

I am inviting you to participate in the research because of the valuable contribution you can make in terms of determining whether the services that are provided by the AJL, meet the needs of students with disabilities, that is the physically challenged and the visually-impaired needs or not, and to identify barriers that they come across as they seek to use the library.

If you agree to participate I would like to interview you or complete a questionnaire. I commit myself to keeping the information you provide confidential. You have a right to withdraw at any point of the study, for any reason, and without any prejudice.

There are no known risks from being in this study. Taking part in the research is completely voluntary.

I appreciate your participation in this research. If you have any questions about the study itself, please contact me.

Thank you

Yours Sincerely,

UNIKA OMOWALE
Appendix 4

Letter of consent for the students with disabilities

Dear Participant

I am a Masters student at Aberystyth University, Wales, United Kingdom investigating the readiness of the Alma Jordan Library (AJL) to provide services to the visually impaired and physically challenged students on The University of the West Indies, St. Augustine Campus.

I am inviting you to participate in the research because of the valuable contribution you can make in terms of determining whether the services that are provided by the AJL, meet the needs students with disabilities, that is the physically challenged and the visually impaired needs or not, and to identify barriers that they come across as they seek to use the library.

If you agree to participate I would like to interview you or send you a questionnaire. I commit myself to keeping the information you provide confidential. You have a right to withdraw at any point of the study, for any reason, and without any prejudice.

There are no known risks from being in this study. Taking part in the research is completely voluntary.

I appreciate your participation in this research. If you have any questions about the study itself, please contact me.

Thank you

Yours Sincerely,

UNIKA OMOWALE
Appendix 5

Interview with Ms. Huggins, Co-Ordinator, SLDD

Introduction\Overview to Ms. Huggins:

I am a student at the Aberystwyth University, Wales United Kingdom, studying towards a Masters in Library and Information Science. The purpose of the research is to determine whether the services that are provided by The Alma Jordan Library meet the needs of students with disabilities. The research is important in that it will assist to identify barriers that students with disabilities face as they use the library and how services that are provided for them can be improved. Please answer the questions as honestly as possible. The questionnaire is anonymous and all responses shall be treated with strict confidentiality.

Interview Questions.

1. What is the number of students with disabilities on campus, that is, visually impaired, physically challenged and hearing impaired?

SLDD only have the number of students that come to register at SLDD students are disabled however, they do they register with us. Only if they need assistance if they can manage they do not come.

2. What faculties do they belong to?

Across all the faculties on campus

3. How does SLDD support students with disabilities on campus?
   - Providing of Academic Support to students of the UWI, St. Augustine at all levels of their academic career. Academic Support in terms of Educational Assessment, Peer Tutoring, Time management techniques, Examination strategies, Workload Management, Study Skills and extended hours for evening university students. Support is also provided to the Faculties and Staff of the UWI in terms of provision of information and guidelines which will enable staff to identify and assist students who are facing difficulties on the campus.
   - providing and ensuring equal access (infrastructure\academic) to all students who enter the University system with a disability

4. Is the AJL equip to deal with the needs of the disabled?
   - The ATL Room need updates for students with visual impairments
   - Librarians willing to assist with e-books
• The physically challenged – elevators
• Library policy has to deal with disable in terms of emergency.

5. Did SLDD make any recommendations to the AJL management to improve or change the services for persons with disabilities?

The relocation of the ATL room from its original location on the second floor to the room its now occupies on the 1st floor.

6. Is there any promotion or advertising of the library’s services by SLDD?

For persons with disabilities in the first year on campus, they are introduced to the library through an orientation by the librarian.

7. Does SLDD work in conjunction with the library to provide training for staff on effective behaviour and communication techniques for serving persons with disabilities?

No training is provided for library staff. In the pass we conducted a sign language course for members of the campus committee and library staff was invited to be trained but this was on a voluntary basis. A couple of them took the opportunity.

8. Does the library have a staff member who coordinates the library services for persons with disabilities? Or is the work done in conjunction with SLDD?

In terms of the technological aspect, I liaise with the IT department of the library. If is problem relates to library access and use of the ATL room I liaise with the Head of Readers Services or the librarian responsible for Circulation and Access Services.

9. Have any physical challenges been eliminated to provide access to the library collection and services?

Only the moving of the ATL room to the ground room and the provision of two desk for persons in wheelchairs as well as a ramp to the front of the building.

10. Do you know if the library has any written policies for providing library services for the disabled?

If yes, when did it start, and changes over the period?
Yes, it has to do with emergencies.

If No, why not?
Appendix 6

Questionnaire to Students with Disabilities

Dear Participant,

I am a student at the Aberystwyth University, Wales United Kingdom, studying towards a Masters in Library and Information Science. The purpose of the research is to determine whether the services that are provided by The Alma Jordan Library meet the needs of students with disabilities. The research is important in that it will assist to identify barriers that students with disabilities face as they use the library and how services that are provided for them can be improved. Please answer the questions as honestly as possible. The questionnaire is anonymous and all responses shall be treated with strict confidentiality.

Instructions for completing the questionnaire.

a. Unless otherwise instructed, please tick in the space provided to fill where necessary the answer applicable to you
b. Use the space provided to answer all questions applicable to you.

1. Gender:  [ ] Male  
[ ] Female

2. How old are you? ---

3. What is your level of study?  
[ ] Undergraduate  
[ ] Postgraduate

4. Which category are you?  
[ ] Full-time student  
[ ] Part-time student  
[ ] Evening student

5. What type of disability do you have?  
[ ] Physically Challenged  
[ ] Hearing impaired  
[ ] Visually impaired

6. Do you know if the Alma Jordan Library have or provide services designed for students with disabilities?  
[ ] Yes  
[ ] No
If yes, what type of services?
_________________________________________________________

How did you know about these services?
_________________________________________________________

7. Do you know if the Alma Jordan Library has equipment designed for students with disabilities?
   [ ] Yes  [ ] No

If yes, what type of equipment?
_________________________________________________________

8. Do you utilise any of the services provided by the library, which ones are of use to you?
   __________________________________________________________________________
   __________________________________________________________________________

9. How did you find out about these services?
   __________________________________________________________________________
   __________________________________________________________________________

10. Which services are not helpful to you, please explain?
    __________________________________________________________________________
    __________________________________________________________________________

11. What are the barriers to the use of services provided by the library?
    __________________________________________________________________________
    __________________________________________________________________________

12. Is there any way that services can be improved for students with disabilities at the library?
    __________________________________________________________________________
    __________________________________________________________________________

13. What services do you think can be implemented by the library?
    __________________________________________________________________________
    __________________________________________________________________________

14. Have physical barriers been eliminated in order to provide access to the library collections and services? Please indicate if changes have been made with regard to:
15. Do you utilise the library electronic resources?

[ ] Yes      [ ] No

If yes, where do you use it?
_________________________________________________________

If No, why not?
_________________________________________________________

16. Do you encounter any problems using the electronic resources?

[ ] Yes      [ ] No

If yes, please give details?
_________________________________________________________

17. Did you attend any library orientation sessions?

[ ] Yes      [ ] No

If No, why not?
18. Is there any particular equipment or software that you would like to see introduced in the library?

________________________________________________________________________

19. Do you think training is needed for the staff

[ ] Yes  [ ] No

If yes, what type of training?

________________________________________________________________________

________________________________________________________________________

Thank you very much for your participation.
Appendix 7

Questionnaire to Librarians

Dear Participant,

I am a student at the Aberystwyth University, Wales United Kingdom, studying towards a Masters in Library and Information Science. The purpose of the research is to determine whether the services that are provided by The Alma Jordan Library meet the needs of students with disabilities. The research is important in that it will assist to identify barriers that students with disabilities face as they use the library and how services that are provided for them can be improved. Please answer the questions as honestly as possible. The questionnaire is anonymous and all responses shall be treated with strict confidentiality.

**Instructions for completing the questionnaire.**

- c. Unless otherwise instructed, please tick in the space provided to fill where necessary the answer applicable to you
- d. Use the space provided to answer all questions applicable to you.

1. Does the library have/provide services and/or equipment designed for persons with disabilities?
   
   [ ] Yes       [ ] No

2. What motivated the AJL to introduce disabled services?

   ______________________________
   ______________________________
   ______________________________

3. Were any external special organizations consulted to help develop disabled services?
   
   [ ] Yes       [ ] No

   If YES, which organizations?

   ______________________________
   ______________________________

4. Were any manuals, books or documents consulted the development of these services?
5. What obstacles were encountered in the implementation of library services to the disabled?

______________________________________________________________________________

6. In your opinion, has the use of the library by patrons with disabilities increased in the past five years?

[ ] Yes  [ ] No

If YES, why do you think that this has happened?

- Increased enrolment of students with disabilities
- Library providing more services; also better promotion of services
- Improved services on campus encourages more students to attend and to identify themselves
- University actively recruiting; outreach service
- University wide promotion and awareness of services
- Changing attitudes of persons with disabilities; more independent; greater awareness of legal rights
- Mainstreaming resulting in more students academically prepared to attend university
- Increased publicity and use of library in general
- More (and better) adaptive equipment available

7. Indicate areas in which the library has made improvements in library accessibility for patrons with disabilities during the past five years. (Check all that apply.)

- Elimination of physical barriers
- Addition of specialized equipment/adaptive technologies
- Adding specialized library services
- Staff devoted to providing library service for patrons with disabilities
- Other (please explain)

8. Which disabilities are specifically addressed through specialized library services? (Check all that apply.)

- Blind and visually impaired
- Deaf and hearing impaired
- Physically impaired
9. Based on the services that you provide now, what has the response been so far from the disabled users?

______________________________________________________________________________
_______________________
______________________________________________________________________________

10. Is the library (or any other unit on campus) taking steps to heighten awareness among library faculty and staff of the special needs of library patrons with disabilities?

[ ] Yes     [ ] No

11. How have the disabled services and facilities been promoted and marketed?

______________________________________________________________________________
______________________________________________________________________________

12. Are parking areas, pathways, and entrances to the building wheelchair-accessible?

[ ] Yes     [ ] No

13. Are doorway openings at least 32 inches wide and doorway thresholds no higher than one half inch?

[ ] Yes     [ ] No

14. Are aisles kept wide and clear for wheelchair users?

[ ] Yes     [ ] No

15. Have protruding objects been removed or minimized for the safety of users who are visually impaired?

[ ] Yes     [ ] No

16. Are all levels of the library connected via an accessible route of travel, or are there procedures to assist patrons with mobility impairments in retrieving materials from inaccessible locations?
17. Are ramps and/or elevators provided as alternatives to stairs?  
[ ] Yes  [ ] No

18. Do elevators have both auditory and visual signals for floors?  
[ ] Yes  [ ] No

19. Are elevator controls marked in large print and Braille or raised notation?  
[ ] Yes  [ ] No

20. Can people seated in wheelchairs easily reach all elevator controls?  
[ ] Yes  [ ] No

21. Are wheelchair-accessible restrooms with well-marked signs available in or near the library?  
[ ] Yes  [ ] No

22. Are service desks and facilities such as book returns wheelchair accessible?  
[ ] Yes  [ ] No

23. Are there ample high-contrast, large print directional signs throughout the library?  
[ ] Yes  [ ] No

24. Are shelf and stack identifiers provided in large print?  
[ ] Yes  [ ] No

25. Is equipment marked with large print and Braille labels?  
[ ] Yes  [ ] No

26. Are library study rooms available for patrons with disabilities who need to bring personal equipment or who need the assistance of a reader?
27. Are hearing protectors, private study rooms, or study carrels available for users who are distracted by noise and movement around them?

[ ] Yes  [ ] No

28. Who conducts training for library staff in providing specialized services and in the use of equipment designed for use by persons with disabilities? (Check all that apply)

- Librarians
- Disabled Students Office
- Vendors
- Persons with disabilities
- Vocational rehabilitation
- No training provided at this time
- Other

29. Who attends these training sessions? (Check all that apply.)

- Circulation Department
- Reference Department
- Library Liaison Librarians
- Support staff
- Patrons with disabilities
- Student assistants
- Other

30. Are staff aware of disability issues?

[ ] Yes  [ ] No

31. Are staff trained in the use of telecommunication devices for the deaf and adaptive computer technology provided in the library?

[ ] Yes  [ ] No

32. Are there regular refresher courses to help staff keep their skills up-to-date?

[ ] Yes  [ ] No
33. Are staff trained in policies and procedures for providing accommodations to patrons with disabilities?

[ ] Yes [ ] No

34. Are staff aware of services provided for people with disabilities?

[ ] Yes [ ] No

35. Does the library have a designated staff member and/or committee who coordinates services for patrons with disabilities, monitors adaptive technology developments, and responds to requests for accommodation?

[ ] Yes [ ] No

36. What space does the library set aside specifically for library services for those with disabilities?

- Separate room(s)
- Scattered individual workstations
- Dedicated space within a larger room
- None

37. Who provides assistance for patrons using space set aside for patrons with disabilities?

________________________________________________________________________

38. Does the library have a written description of services for patrons with disabilities, including procedures and information on how to request special accommodations?

[ ] Yes [ ] No

39. Have the policies for providing services for library patrons with disabilities been revised in the past five years?

[ ] Yes [ ] No

If yes, in what way have the policies been changed?

______________________________________________________________________________

40. Are reference and circulation services available by phone and electronic mail?

[ ] Yes [ ] No
41. Which of the following library services for persons with disabilities are provided by the library? (Check all that apply.)
- Retrieving of materials from the stacks
- Looking up material in library catalog
- Photocopy service
- Telephone renewals
- Accessible photocopiers
- Telephone requests
- Specialized bibliographic instruction
- Referral services
- Delivery service
- Extended loan periods
- Reading to the blind
- Recording of textbooks or other reading materials
- Giving examinations
- Signing with the deaf/hearing impaired
- Other

42. Is the library's online catalog equipped with:
- Print enlargement? _Yes _ No
- Speech synthesis? _Yes _ No

43. Do the blind library patrons at your institution use Braille?
- [ ] Yes [ ] No

44. What specialized equipment or adaptive technologies are available in the library for use by patrons with disabilities? How often is this equipment used? (Check all that apply.)
- Reading machine
- Screen enlargement
- Hand magnifier
- Tape recorder (variable speech)
- Braille typewriter
- Speech synthesis
- Reel-to-reel tape recorder
- Braille printer

45. Do you offer disabled users tours of the library and facilities including teaching exercises in how to use special equipment?

46. Do electronic resources with images and sound provide text alternatives to these formats? Is the design consistent with clear navigation paths?
- [ ] Yes [ ] No
47. Can the library's electronic resources including online catalogs, indexes, and full-text databases and CD-ROMs be accessed with a variety of adaptive computer technologies such as screen readers and speech synthesis?

[ ] Yes   [ ] No

48. Do collection development policy statements specifically state that electronic products should be evaluated for accessibility as part of the purchasing process?

[ ] Yes   [ ] No

49. Do library Web page style guidelines require that pages be designed in an accessible format?

[ ] Yes   [ ] No

50. Are librarians prepared to assist patrons with electronic resources that they cannot access by providing research consultations or materials in other formats?

[ ] Yes   [ ] No

51. What changes/improvements would you like to see adopted within the AJL?

______________________________________________________________________________
______________________________________________________________________________

52. Does the AJL have any immediate plans for the future with respect to disabled users?

______________________________________________________________________________
______________________________________________________________________________

53. Are there any special services you would like to see introduced?

______________________________________________________________________________
______________________________________________________________________________

Thank you very much for your participation.