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Providing access to students with print disabilities: The case of the North-West University in South Africa

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\textbf{ABSTRACT}

Academic libraries should be accessible to all students and relevant stakeholders. Students with print disabilities are found in many universities worldwide. This article examines the services and tools that are available at the North-West University (NWU) in South Africa. Literature was used to identify how services, signage, and tools that should be included in an academic library to ensure access for all. The study found that the NWU had limitations in terms of material and assistive technologies. A legislative framework promoting information access for the disabled people was explored. Recommendations are for partnerships to improve material and access to resources.

\textbf{KEYWORDS}

Print disabilities; academic libraries; South Africa; disabled patrons; University Collaboration – academic libraries; special projects

\textbf{Introduction}

All students enrolled in institutions of higher learning require access to libraries and appropriate information resources. Institutions should ensure that all the needs of the students are catered for to enable them to succeed. In the last few years, institutions of higher learning have seen an increase in students with disabilities such as albinism, partial sightedness, mobility impairments, and other forms of disabilities. However, Majinge and Mutula (2018) found that many university libraries all over the world are unable to offer adequate information services for students with visual impairments.

In South Africa, up to 5% of people suffer from some form of visual impairment (South Africa Library for the Blind, 2015). The South African Library for the Blind Act, No. 91 of 1998, focuses on blind and print-handicapped readers and on improving access to library and information services by South African people. South African legislation gives all students the right to equal education and to be treated with dignity and respect (Matshedisho, 2018). The challenge to serve the information and reading needs of blind and print-handicapped readers is, therefore, enormous and cannot be ignored. The rights of all people are protected in the South
African Constitution; this includes the right of the blind and visually impaired to have access to information and reading material irrespective of where they live (Oppenheim, 2017).

In addition, The Marrakesh Treaty to Facilitate Access to Published Works for Persons who are Blind, Visually Impaired, or otherwise Print Disabled (“Marrakesh Treaty”), of which South Africa is a signatory, facilitates the availability of literary and artistic works to people with visual impairments (Oppenheim, 2017). The Treaty allows organizations to perform certain acts otherwise prohibited under copyright law to assist persons who are visually impaired as well as those with a physical disability that prevents them from holding and manipulating a book. Finally, the Treaty gives libraries permission to create accessible copies for patrons who suffer from visual disabilities (Oppenheim, 2017).

In South Africa, the Constitution (Act 108 of 1996), the Bill of Rights, the Promotion of Equality and Prevention of Unfair Discrimination Act (Act 4 of 2000), the South African Library for the Blind Act (Act 91 of 1998), and the White Paper on an Integrated National Disability Strategy of 1997 are the main pieces of legislation that impact on the lives of people with disabilities (Nkondo et al., 2014). Moreover, South Africa has ratified the United Nations Convention on the Rights of Persons with Disabilities and its Optional Protocol. These official documents generally emphasize the right of access to information for people with disabilities. The Copyright Act, the Legal Deposit Act, and other laws, however, make no special provision for people with disabilities, and thus restrict access to information (Nkondo et al., 2014).

The current landscape of availability of material for people with print disabilities is not favorable. Fitzpatrick (2014, p. 6) reported that most authors and publishers refuse to license or make their works available in accessible formats “because they view the market for the visually impaired and other persons with disabilities as an ‘orphan market’ that is not economically worthwhile.” The Disability Management Services (2011) in South Africa observed a number of challenges facing students with disabilities in universities in South Africa. Students with disabilities are often marginalized by library policies in terms of library services, only a small fraction of books are transcribed into alternative formats that are accessible to students with print impairments, academic books or prescribed materials are not available in appropriate formats, and to produce reading material in house takes a very long time.

Visual impairment varies greatly depending at the level and age at which vision was lost. A person is considered legally blind when visual acuity is 20/200 or less in the better eye with the use of corrective lenses (London & Beezhold, 2015). Most legally blind persons have some residual vision
(North-West University Disability Unit Annual Report 2015). Others who are partially sighted may rely on residual vision with the use of adaptive equipment. Totally blind persons may have visual memory, its strength depending on the age when vision was lost. Whatever the degree of impairment, visually impaired students are expected to participate fully in academic activities such as discussions and group work.

The common trait among visually impaired students is that they have difficulty reading or are unable to read text in print or on a computer screen (Tinerella & Dick, 2005). They rely on auditory or tactile signals to process information. They can also depend on a variety of adaptive technologies to access resources.

**Literature review**

**Print disabilities**

A number of definitions of print disabilities exist in the literature. Blechner (2015, p. 139) stated that “print-disabled” was a term coined by George Kerscher over a quarter of a century ago, to describe “[a] person who cannot effectively read print because of a visual, physical, perceptual, developmental, cognitive, or learning disability.” The definition by Blechner (2015) was adjusted by the Google Library Project in 2009 as cited in Blechner (2015, p. 139) to include users who are “unable to read standard printed material due to blindness, visual disability, physical limitations, organic dysfunction or dyslexia.” Lazar and Briggs (2015) added to the definition by including the inability to see print, process print, or physically handle print.

**Debates and challenges of print disabilities**

One of the debates around the issue of print disabilities concerns the need for accessibility and usable designs. Blechner (2015) discussed accessibility as referring to products, services, and facilities that are used independently by people with disabilities. Usable design refers to the effectiveness, efficiency, and satisfaction that a set of users can accomplish in a particular environment. Usability is concerned with ease of use and the ability to perform the same task later. From this, it is evident that when examining print disabilities there is a need to explore the accessibility in the form of products, services, and facilities as well as the usability that ensures ease of use.

Lazar and Briggs (2015) found that the major factors that needed to be considered in assisting patrons with disabilities were web accessibility, staff awareness and training, the library physical environment, library offerings including databases, materials and equipment, and the marketing materials.
The aim as outlined by Lazar and Briggs (2015) is to provide users with a baseline of resources.

Tripathi and Shukla (2014) examined the use of assistive technologies in academic libraries in India, the United States, and Canada. Assistive technologies refer to “assistive, adaptive rehabilitative devices, products, or equipment for helping people with disabilities” (Tripathi & Shukla, 2014, p. 105). Assistive technologies are viewed as being able to improve, increase, and maintain the functional capabilities of persons with disabilities. The results of the study by Tripathi and Shukla (2014) showed that assistive technologies in India are still in a nascent stage, similar to South African academic institutions to some extent, whereas the libraries in developed countries such as the United Kingdom, the United States, and Canada regularly make use of assistive technology.

One of the challenges reported in the literature is students’ reluctance to self-identify that they have a disability, mainly because of the stigma associated with having a disability. Researchers have proposed a number of interventions to aid in this challenge. Blechner (2015) proposed the use of accessible digital spaces.

Different types of assistive technologies are found in the literature. Lundh and Johnson (2015) focused on the digital talking books for people with print disabilities. The study by Lundh and Johnson (2015) focused on the possibilities and limitations that users with print disabilities encounter when using such books and not on the technical features of talking books. The study suggests that talking books have potential as meaning-making devices and that the realization of some of this potential varies between settings and user groups.

Students with print disabilities are found in many universities worldwide. This article examines the services and tools that are available at the NWU in South Africa. The literature was used to identify services, signage, and tools that should be included in an academic library to ensure access for all. The study found that the NWU had limitations in terms of material and assistive technologies. A legislative framework that promotes information access for disabled people was explored. Furthermore, the diversity of user groups—not only in terms of types of disabilities but also in terms of age, education, or socio-economic status—should be taken into consideration. Again, however, it must be emphasized that much work remains in order to nuance and confirm these conclusions.

Research on services for people with disabilities has mainly been focused on web content. Wilson (2015) examined web content and design trends in Alabama academic libraries. Blanck (2014) focused on the struggle of web quality by persons with cognitive disabilities. However, results by Foasberg (2014) found that students preferred to read print material and tended to
read brief nonacademic material in electronic format. The focus should be on print disabilities in both electronic and print material.

Copyright remains a barrier for ensuring access to material despite the Marrakesh Treaty. One of the challenges of making material accessible to visually impaired people is the reluctance of some countries, particularly in the European Union, to ratify the Marrakesh Treaty. This is due to concerns raised by rights holders in some of the countries (Oppenheim, 2017). Consequently, material for people with disabilities remains limited.

In the African context, research on disability at higher institutions of learning focuses on disability inclusion. Previous studies have focused on disability inclusion. Emong and Eron (2016) examined disability inclusion in Uganda. Mutanga and Walker (2017) explored the academic lives of students with disabilities in higher education in South Africa. Ohajunwa, Mckenzie, and Lorenzo (2015) examined inclusive practices at an institution of higher learning. Finally, Mosia and Phasha (2017) investigated access to curriculum for students with disabilities at higher education institutions in Lesotho. From these studies, it can be noted that disability in Africa is currently being examined from the perspective of inclusion.

The South Africa Council on Higher Education (CHE) Report as cited by (Howell 2005) strongly recommends the mainstreaming of disability support into existing teaching and learning structures. The NWU has made great strides in this area. However, some other organizational units, such as at the University of KwaZulu-Natal, are shirking their responsibility to students by passing the problem of providing equal opportunities on to the Disability Unit (DU) (Seyama, Morris, & Stilwell, 2014).

Case study

The NWU in South Africa is a multi-campus university with a footprint in two provinces. It was established on 1 January 2004 through the merger of two universities. The Mafikeng and Potchefstroom Campuses are situated in the North-West Province, and the Vaal Triangle Campus is in Gauteng. The head office, known as the Institutional Office, is in Potchefstroom, adjacent to the Potchefstroom Campus. As a preeminent University in Africa, driven by its pursuit of knowledge and innovation, with a unique institutional culture based upon the values the University espouses, the NWU adopted a Policy for Students with Disabilities on 15 June 2012 (North-West University, 2012). This policy is subject to the statutes and the resolutions of the Council of the University. The policy was informed by the availability of resources in the context of all current and future priorities and commitments of the University (North-West University, 2012). It is the undertaking of the NWU to, where reasonably possible and
without discrimination, strategically meets the needs of students with disabilities. The number of students with disabilities has been on the rise at the NWU, as can be seen in Figure 1. Since 2014, the number of students with disabilities has been increasing at the NWU. In 2014, the number of students was 117, and in 2017 the number of students was 467. The number of students with visual impairments is presented in Figure 2. In 2016, the Department of Higher Education and Training (2016) reported that there were 7525 students with disabilities in South African universities. An example of another study at a university in South Africa is Phukubje and Ngoepe’s (2017) that at the University of Limpopo in the Limpopo Province of South Africa there were 92 students with disabilities.

The number of students at the NWU with visual impairments increased from 54 students in 2014 to 88 students in 2017. The NWU’s libraries have thus seen an increase in the number of students with visual impairments.

Figure 1. Students with disabilities at the North-West University.

Figure 2. Students at North-West University with Visual Impairments since 2014.
In 2017, the Department of Higher Education and Training stated that there were 1764 students with sight disabilities at universities in South Africa, and the University of Limpopo had 35 students with print disabilities (Phukubje & Ngoepe, 2017). Majinge and Stilwell (2013) and Seyama et al. (2014) remarked about the increase in student enrollment and specialized needs of students with blind and visual impairment at the University of KwaZulu-Natal. The NWU is, therefore, not in a unique position and should seek means to fully address the needs of students who are visually impaired.

Harris and Oppenheim (2003) added that the further education sector in the United Kingdom in 2003 has seen a rise of around 4500 visually impaired students enrolling in further education programs (Harris & Oppenheim, 2003, p. 244). These educational institutions and their libraries fulfill their obligations under the Special Educational Needs and Disability Act (SENDA). The NWU and its libraries fulfill their obligations as guided by the Policy for Students with Disabilities based on various South African Legislative framework.

**Purpose and objectives of the study**

University libraries are required to ensure that all students, including students with print disabilities, have access to the library and its collections. Steps have been taken at the NWU to give students with print disabilities access to the library holdings. The pertinent question is, how can information services to students with print disabilities be improved?

This study evaluated the services offered to students with print disabilities and recommended an approach to assist the NWU Libraries to provide services to students with print disabilities. The specific objectives of this study were to:

1. Identify the services offered to students with print disabilities.
2. Assess the current state of provision of resources for students with print disabilities.
3. Propose an approach to improve access to resources for students with print disabilities at the NWU.

The libraries are constrained in the provision of material for students with print disabilities. The argument of this paper is that, for the NWU to be able to assist students with reading disabilities, a partnership approach is required.

**Methodology**

The data for the study was obtained through observations using a developed checklist. The observations were conducted at all three campus
libraries of the NWU. The checklist was adapted from the International Federation of Library Associations Checklist (IFLA) developed by Irvall and Nielsen (2005) and findings from Babalola and Yacob (2011). Furthermore, an interview with the librarian responsible for the disabled students was conducted at one of the campuses.

Current state of provision of resources at the North-West University

The library plays a significant role in supporting the reading needs of all students, including those with visual impairments. One of the campus libraries has integrated vibrant space in the Information Commons where mostly undergraduates prefer to spend their time. Computers with specific software, e.g., JAWS and Dragon, to support the learning needs are made available for the students in the Information Commons. There are enough staff members and student assistants in the section to provide support. Individual support for unique needs and ongoing research is provided.

Practical measures to support visually impaired students prior to the beginning of a semester include:

- The provision of reading lists or syllabi in advance to allow for arrangements such as the Brailling of texts or the editing and translating to electronic documents to use with software (such as JAWS screen reader).
- In cooperation with the Disability Unit coordinators, we assist the students in finding readers, note-takers or tutors where necessary, or team the students up with sighted classmates or laboratory assistants.

A dedicated librarian is assigned to the Disability Unit and attends regular meetings with staff and students. Reprographic services are also provided. Various assisting formats are available to support students’ academic needs. Assistive devices and electro-optical devices such as character recognition and screen magnification utilities are available. These range from sensory substitution, low vision, and adaptive devices to large-type keyboards and typewriters. The common tools designed to broaden access for students with vision problems include the screen readers, Braille translation software, Braille writing equipment, Braille embossers, scanners such as OCR (Optical Character Recognition), Zoom Text, JAWS, and an Accessibility Room.

However, compared to other university libraries and through a review of the existing literature, the NWU experiences limitations in material provision. Some of the materials identified in the earlier studies by Babalola and Yacob (2011), i.e., talking books, audio books, DAISY books, and talking newspapers, are not available. Other features that should be available in a
library, according to a study by Harris and Oppenheim (2003), are listed in the table below, with an indication of their availability. Table 1 provides features that have been identified as being required in an academic library from other studies such as Majinge and Stilwell (2013). It indicates the availability of each feature at the University.

Majinge and Stilwell (2013) stated that academic libraries should provide services that are inclusive and universal. The layout of library buildings should also include functioning lifts and ramps, together with signage in Braille and large print. Irvall and Nielsen (2005) recommended that persons with reading difficulties be given access to:

- Information written in an easy-to-read text.
- Information on audio/video tape, CD/DVD, or in DAISY format.
- Information on the library’s accessible website.

These are indeed available at the NWU libraries.

There is also a lack of sufficient access to appropriate sources. These include:

- Physical infrastructure and resources. Not all buildings are fitted with accessible lifts and ramps for students with disabilities.
- Limited funding to purchase assistive devices for visually impaired students (such as magnifiers).
- Lack of human resources as libraries are understaffed. Libraries, like disability units, are not adequately staffed to cater for the needs of visually impaired students, and staff are not adequately trained.

### Success factors

The NWU has successfully made the Braille facility on the Mafikeng and Potchefstroom campuses functional and has staff who are trained on Braille. Student assistants are employed to assist the Disability Units to

<table>
<thead>
<tr>
<th>Features to assist students with reading disabilities</th>
<th>Availability at North-West University</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large print notices/signage</td>
<td>Yes</td>
</tr>
<tr>
<td>Access to library and shelves designed with these users in mind</td>
<td>Yes</td>
</tr>
<tr>
<td>Braille buttons in lift</td>
<td>Yes</td>
</tr>
<tr>
<td>Braille signing on all shelves</td>
<td>No</td>
</tr>
<tr>
<td>Guiding in a color scheme recommended by the RNIB</td>
<td>No</td>
</tr>
<tr>
<td>Tactile signs</td>
<td>No</td>
</tr>
<tr>
<td>Yellow plates on door handles</td>
<td>Yes</td>
</tr>
<tr>
<td>Lift</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Table 1. Features to assist students with reading disabilities at North-West University.
provide quick, reliable services and support to students with disabilities, including students with visual impairments.

Training programs are customized to meet the individual needs of students. Disability Unit staff members act as a liaison between the library and the University’s academic departments. Disability units acquire specialized software and equipment to assist the visually impaired students to use these resources so that they can become more self-sufficient researchers.

**Partnership approach**

This article envisages a partnership approach to overcome some of the challenges faced by the NWU. The partnership was envisaged in 2017 and was realized in 2018 through a generous sponsorship from one of the reputable corporations to establish a strong, lasting relationship between the NWU and the South African Library for the Blind (SALB). The SALB is a not-for-profit organization that was established to render a proper library and information service to blind and visually impaired South African citizens. By establishing partnerships with interested organizations like the NWU, the SALB ensures that library services can be made accessible to the blind and visually impaired. Reading material and equipment suitable for the print impaired persons will be made available through the sponsorship.

The objective of such a partnership is twofold. It will initiate collaboration between the parties in order to apply a collective vision and find sustainable solutions to benefit the NWU and surrounding communities of the NWU campuses. This initiative is driven by an awareness of visually impaired members found within the communities. Additional motivating factors for the partnership are to:

- Contribute to new knowledge generation and capacity building enablement over time.
- Develop new content in the form of narration services to contribute to new knowledge production and distribution.
- Content development can be in a form of voluntary book narration services at the NWU campuses. A pilot project will be conducted at one of the campuses with the highest number of students with print impairment. The South African Library for the Blind will take responsibility of downloading content and proofreading it, right up to the book production stage. In this way students will have more titles available to choose from. The content will either be academic or recreational. Procuring and maintaining these information resources will be a joint responsibility of the parties in agreement.
- Maximise efficient use of existing infrastructure.
• Share resources and expertise that would result in fully independent persons.
• Contribute to skills development to effect professional growth and development.
• Support already existing provincial literacy programs.

The track record of the NWU indicates a willingness and a desire to stay relevant and active in its communities. To support this effort, the Library Services of the NWU will contribute by making a difference in the lives of the blind and visually impaired people in its surrounding communities. This will be achieved over a short to medium-term time frame and services and programs will be expanded to surrounding areas around the university campuses and eventually to the country as a whole. For such an endeavor to be effective and successful, aligned positive outcomes have been clearly defined with the sponsor, within the existing needs and assets of surrounding communities. Within the parameters of this partnership, alignment outcomes to public libraries that support and provide services for the blind and visually impaired people in the community will be improved, starting off with mini-libraries services.

**Partnership impact**

The impact of this partnership will be inspirational and meaningful and will seek to advocate positive action aimed at changing the lives of the visually impaired people and librarians serving blind and visually impaired people at the NWU and in the North-West Province. The proposed strategies for this partnership include:

• Workshops to train the relevant public library staff.
• Customised short courses.
• The training function will include practical work (hands-on experience) and observation by the instructor to correct shortcomings where they may appear.
• Sharing advanced skills in providing information for different needs. The NWU is well positioned for research innovation, teaching and learning and information literacy instruction and facilitation. This is one of the positive attributes of the project.

This initiative will support the ideals expressed in the South African Constitution, the United Nations Convention on the Rights of Persons with Disabilities and the Library and Information Charter of South Africa. The success of the partnership will be the fulfillment of the millennium
goals which encourage partnership as a way to bridge information access barriers and maximize use of resources.

**Other practical strategies that are recommended for the North-West University**

Tinerella and Dick (2005, p. 30) recommend a welcoming atmosphere in the academic library, one where students with vision problems feel confident that they can ask for assistance. A few other measures are:

- Providing a wide range of resources, including databases to support research, teaching and learning. Ensure that databases are JAWS compliant by liaising with service providers.
- Individual librarians acting naturally without over-compensating.
- Realising that all people with visual impairments are unique and that each student will require individual levels of support.
- Guides and induction sessions are essential.
- It is important to market and publicize available services in appropriate formats to visually impaired students. Networking is essential as no single library can adequately cater for information needs of the visually impaired (Babalola & Yacob, 2011). It is essential to network with other organizations that can share resources and provide additional support. This approach will also enhance resource provision at the NWU.

Continuous policy review is essential to reflect commitment to library and information provision to the visually impaired. A formal document policy is important because it will serve as a guide in acquisition, budget allocation and staff training. It will also help to define the relationship of the library with other agencies serving the visually impaired (Babalola & Yacob, 2011).

**Conclusion**

Students with reading disabilities currently have limited opportunities to read. Universities such as the NWU are constrained in terms of financial resources and often lack the necessary skills to provide resources and information literacy opportunities. This article embraces a partnership that has been established in order to meet the needs of the students and also the broader community.

Training of library staff would equip staff with the necessary skills to conduct information literacy classes for the blind and those with visual impairments. Training should be focused on information access and could
include demonstrations on how to access databases remotely. An integrated, holistic approach is a proven success factor. NWU staff members submit study notes and guides to be formatted into Braille or usable electronic formats prior to lectures. It can, therefore, be concluded that the NWU is very progressive in addressing the needs of blind and visually impaired students.

Future research should focus on models that can be used to ensure access to material for all with print disabilities and on a consortium approach to ensure that universities are able to meet the information needs of students with print disabilities.

With a positive attitude and a few minor considerations, academic librarians can help students with vision problems overcome any form of learning difficulty. A welcoming space for all with integrated information resources combined with librarians’ special talents yield positive results in support of varied reference and research needs. Ongoing research is conducted to improve services. There are continuous fundraising efforts to generate additional income to upgrade services and improve the learning experience of students.

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