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Factors influencing library use by students with disabilities in Zimbabwe: The case of United College of Education (UCE)

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Abstract

The study investigated the factors that influence library usage by students with disabilities at United College of Education in Zimbabwe. The study employed a qualitative approach. Interviews were held with sixteen students with disabilities, the chief librarian, two library assistants, and one library intern. Data were also collected through observations. Results reveal that great effort has been made to provide inclusive library services to students with disabilities; however, challenges remain. These include: physical inaccessibility of the library to students living with disabilities, lack of infrastructure to support available assistive technologies, information resources that do not accommodate students living with disabilities, and staff that is not adequately trained to handle users with disabilities. The study contributes to global debate about provision of library services to people living with disabilities from

a Zimbabwean perspective. The study's recommendations provide ideas that can be adopted by libraries to improve inclusivity.

Keywords

students with disabilities, library use, inclusive education, assistive technologies, college libraries, Zimbabwe

Introduction

Education is a basic right for every person regardless of national, social, political, economic, racial, cultural or religious background, and regardless of disability. The right to education for people living with disabilities is guaranteed internationally at United Nations level through the United Nations Standard Rules on the Equalization of Opportunities (UNSREO) for Persons with Disabilities. Through standard rule number six, the United Nations advocates that the education of people living with disabilities be an integral part of education systems of all member states (United Nations, 2006a). Similarly, article 24 of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) states that state parties shall ensure that persons with disabilities are able to access general tertiary education, vocational training, adult education and lifelong learning without discrimination and on an equal basis with others (United Nations, 2006b). Furthermore, the United Nations Education, Scientific and Cultural Organisation (UNESCO) Education Strategy 2014-2021, actively sponsors member states into developing education systems that foster inclusive lifelong learning for all regardless of disability (UNESCO, 2014).

The African Union (AU) also promotes the educational rights of people living with disabilities on the continent. The rights are enshrined in the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Persons with Disabilities in Africa (AU, 2018). The protocol commits African States to ensure that persons with disabilities are educated in a manner that promotes their participation and inclusion in society. The protocol emphasises that persons with disabilities shall on no account be presumed to be uneducable or untrainable. The African Disability Alliance (ADA), Non-Governmental Organisations (NGOs) on the continent, and Disabled People's Organisation (DPO) all acknowledge the importance of educating persons with disabilities in a manner that promotes their participation and inclusion in society (SAFOD, 2016). On the regional level, the Southern African Development

Community (SADC) has endorsed inclusive education to make issues pertaining to access to quality education for students with disabilities an integral part of all the member states' policies and programmes (SAFOD, 2016).

In Zimbabwe, the Zimbabwe Human Rights Commission (ZHRC) has worked tirelessly to gain government's support to ensure the respect and enjoyment of rights by persons living with disabilities as provided for in the Disabled Persons Act of 1992, the Convention on the Rights of Persons with Disabilities (CRPD), and sections 56 (3) and 83 of the Constitution of Zimbabwe. Specifically, section 56 (3) of the Constitution prohibits discrimination on several grounds including disability while Section 83 of the Constitution and Section 5(1) of the Disabled Persons Act spell out that the State through the National Disability Board should take appropriate measures to ensure persons with disabilities: become self-reliant, live with their families and participate in social, creative and recreational activities, are protected from all forms of exploitation and abuse, are given access to medical, psychological and functional treatment, are provided with special facilities for their education, and are provided with state funded education and training where they need it (Government of Zimbabwe, 2013).

Philanthropic organisations like the Jairos Jiri Association have played a pivotal role in advocating for education and training for people living with disabilities in Zimbabwe. The Association's Lobby and Advocacy programs have brought inclusivity in the primary and secondary schools and vocational training colleges established by the Association (Chataika, 2013). Similarly, one of the aims of the National Association of Societies for the Care of the Handicapped (NASCOH), an umbrella body for organisations representing people with disabilities in Zimbabwe, is to support people living with disabilities in their quest for education (NASCOH, 2021). Another influential Zimbabwean organisation, the National Association for Non-Governmental Organisations (NANGO), for long implored government to accommodate people living with disabilities in its education policies (Machingura, 2013).

The Zimbabwean government, through its Inclusive Education Policy, has directed tertiary institutions to enrol students with disabilities together with other students on a fair basis. Teacher Training Colleges were the first to respond by effecting mainstreaming and integration (Chataika, 2010). The concept of mainstreaming emphasises that students with disabilities can academically excel in a

general learning environment like their counterparts (Reynolds, Zupanick and Dombeck, 2013). The United College of Education (UCE), a teacher training college based in Bulawayo, Zimbabwe's second largest city, enrolls students who want to pursue a career in teaching without discrimination, in line with government policy on inclusion. This college offers diplomas in three disciplines, namely: General Education (GE), Early Childhood Development (ECD), and Special Needs Education (SNE). In these programs, the college currently has sixteen students with disabilities. However, despite the formidable efforts made to ensure that inclusion is observed in enrolment, it appears information service provision has not moved at the same pace to meet the information needs of the growing number of students with disabilities at UCE.

A study done at UCE by Luthuli, Ncube, Moyo and Nyathi (2016) showed that students living with disabilities were poor users of the library. Only three of them used the library regularly. The library usage behaviour of students living with disabilities was in sharp contrast to that of their counterparts, who used the library much more. The poor library usage by students with disabilities seemed to be affecting their educational performance because the same study revealed that lecturers at the institution were not impressed with the quality of work they submitted. The lecturers complained that students with disabilities took longer than their peers to submit assignments and that the quality of their work was usually low. The study pointed to information provision as a major issue that may be affecting the performance of students with disabilities at UCE. While the study revealed that students with disabilities did not use the library, it however, did not offer reasons for this state of affairs. The study did not reveal factors influencing the library usage patterns by students with disabilities at UCE.

The challenge of poor library use by students with disabilities at UCE persist despite the major strides that have been made, globally, nationally, and institutionally to accommodate such students in mainstream programs (Lorenzo, 2011). It seems that whereas the students have been accepted in the classroom, the libraries of educational institutions have not always moved to accommodate their needs. Maarno (2014) has argued that all library users should be accommodated and must have their individual needs catered for and not generalised by meeting supposedly common needs only.

A study of literature shows that one of the key issues that frustrate students with disabilities in their quest to use the library is the accessibility of these libraries. Ekwelem (2013) conducted a study in Nigeria and observed that many physically challenged people attending conventional educational institutions were disadvantaged because appropriate accessible buildings, facilities and information resources to cater for them were not provided. The building of academic libraries is controlled by the parent institutions who may not value the importance of accessibility of facilities to students living with disabilities (Babbie, 2003). Another study conducted in Kenya by Irvall and Nielsen (2005) found that lack of adequate space in libraries limited the free movement of patrons on wheelchairs and discouraged their use of the facilities. In the libraries they studied the sitting space, shelves, offices and library catalogues were too close together with very little room for movement. Access to some of the information resources and services was difficult for patrons with disabilities due to the physical layout of the libraries.

To be fully inclusive, libraries ought to adopt assistive modern information and communication technology tools to cater for the needs of students with special needs (Maarno, 2014). Seyama, Morris and Stillwell (2014) investigated the information seeking behaviour of blind and visually impaired students at the University of KwaZulu-Natal, Pietermaritzburg campus. The findings revealed that blind postgraduate students had troubles accessing online resources because the library did not have assistive technologies installed to aid students with visual impairments. Maarno (2014) argues that in as much as Information and Communication Technologies (ICTs) have been adopted in the classroom, libraries should adopt Assistive Technologies (AT). Researchers also note that library collections should be available in different media formats to ensure universal access to information in libraries. Harris and Oppenheim (2003) state that access to electronic and print resources can be a challenge for people with visual impairment as these information resources are usually available in a format that is not user friendly.

As Zimbabwe embraces the inclusive education policy, this study points out the major challenges that students with disabilities face, as they access information. Findings of the study can inform new national policies that seek to further promote access to information for people living with disabilities. The study will also help librarians in understanding reasons some students with disabilities avoid using the

library. The recommendations of the study will inform librarians as they formulate inclusive library policies and revise their practices.

Statement of the problem

Students with disabilities at UCE hardly use the library. A study conducted by Luthuli et al. (2016) showed that this circumstance has negatively affected their education as their marks are usually lower than those of their counterparts. The study, however, did not go further to investigate why students living with disabilities make poor use of the library. Furthermore, the study did not establish if the UCE library provides equal opportunities for all students. However, if this situation remains unresolved, the current situation will persist and the gains achieved by enrolling students with disabilities will be forfeited. UCE attracts students from all over the country and even from some countries within the Southern Africa Development Community (SADC) and continued failure or delayed completion of studies by students with disabilities on account of lack of library use may discourage future applications from this critical group. A study was therefore warranted to understand the problem.

Purpose of the study

The purpose of the study was to investigate factors that affect library usage by students with disabilities at UCE.

Objectives of the study

The objectives of the study were to:

- Assess the physical accessibility of UCE library to students with disabilities;
- Establish the technologies adopted by the library to assist students with disabilities to gain access to information;
- Examine the extent to which the format of materials at UCE library accommodates students with disabilities; and,
- Examine the extent to which the library staff has been trained to serve students with disabilities.

Research questions

The research questions of the study were as follows:

- To what extent is the UCE library physically accessible to students with disabilities?
- What technologies have been adopted by the library to assist students with disabilities to gain access to information?
- To what extent does the format of materials at the UCE library accommodate students living with disabilities?
- To what extent has the staff of UCE library been trained to handle students with disabilities?

Literature review

Physical accessibility of libraries to students with disabilities

Accessibility means enabling or allowing a person with a disability to have access directly or indirectly to benefits of public social services in all spheres of society (Disability Act, 2010). A library is an independent space that should be physically available to all its patrons. This may include physical access environmentally, such as: accessing the library building, access to the rest rooms, reserved parking spaces, and access to the information resources (Disability Act, 2010). Irvall and Nielsen (2005) stress that all parts of the library should be accessible, the space should be arranged logically with clear signage and a floor plan posted close to the entrance, service desks should also be located close to the entrance and wheelchairs should be able to move around inside the library easily. If the library has more than one level, there should be a lift for wheelchairs or ramps. There should be no raised doorsteps and all doors should have automatic opener and shelves should be reachable from a wheelchair. There is a need for librarians to persuade the government and relevant stakeholders to mandate academic libraries to be physically accessible to students with disabilities (Irvall and Nielsen, 2005).

Shelton (2014) conducted a study on accessibility and facilities for people living with disabilities in public university library buildings in Leicester, United Kingdom. The main purpose of the study was to examine the views of architect experts and physically disabled users on the accessibility status of 14 public and university library buildings in Great Britain. They used the IFLA checklist as a

framework for the study and findings indicated that 53.8% of libraries did not provide ramps and 63% had no exclusive space for the disabled. Users with disabilities have the right to be considered when buildings and functions are planned (Bodaghi, Cheong and Zainab, 2015). Onatola (2007:96) found that the present situation in most universities in Iran is such that students and staff who use wheelchairs must literally be physically carried when they want to access public facilities such as lecture rooms and libraries. Scholars like Shelton (2014) condemn such behaviour in academic libraries and insist that libraries should be designed to be universally accessible and should have equipment in place to enable all users to get maximum benefit from the library's materials and services offered. Burke (2000) stressed that even a single stair in front of the restrooms or the reference section can present a barrier for students with disabilities.

Evidence from research done in Nigeria by the African Studies Centre Leiden (ASCL) (2008) show that physical inaccessibility of library facilities undermines library usage by students. Lack of desks and study space suitable for wheelchair users, inability to keep entrances wheelchair accessible, corridors occupied with obstacles, the inability of patrons with disabilities to access library shelves, and their inability to leave the library building in case of emergency are all detrimental factors to library usage by people living with disabilities (ASCL, 2008). In addition, many physically challenged people attending conventional educational institutions were disadvantaged because appropriate accessible buildings, facilities and information resources to cater for them were not provided (ASCL, 2008). Physical accessibility challenges also affect students with disabilities in South African Universities. Outcomes from a study carried out in South Africa by Caga (2011) indicated that the most common challenges identified by the participants were physical barriers which included the inaccessibility of buildings and infrastructure to people with disabilities. The same study noted that inaccessible buildings were a challenge facing people with visual impairments. Participants mentioned that often there were no suitable lifts in buildings, the colour coding used to help people with visual impairments to access buildings was inappropriate and the signage was sometimes too small for partially sighted individuals (Caga, 2011).

Students with physical impairment have a huge challenge in accessing library materials. Akolade et al. (2015) conducted a study on physically challenged undergraduates' satisfaction with libraries and information services in higher

institutions of learning in Kwara state, Nigeria. About 85.1% of respondents indicated that there were no transcription services for physically challenged students in the library while 83% indicated that there were no orientation programmes for the physically challenged students in the library. A study by Chataika (2010) on personal experiences of students with disabilities in Zimbabwe indicated that the hearing-impaired students lamented physical exclusion from library buildings in tertiary institutions as they felt that hearing people did not consider them to be contributors to the development of Zimbabwe.

Lorenzo (2011) says that a country should measure the extent to which it values its human rights by the way the vulnerable population is treated. Manatsa (2015) notes that many government workplaces in Zimbabwe are inaccessible to people with disabilities. For example, many buildings do not have guiding rails, elevators lack recorded voices for persons with visual impairment, and elevators are too narrow to accommodate wheelchairs. Mpofo and Shumba (2012) conducted a study on challenges faced by students with special educational needs at Early Childhood Development (ECD) centres in Chegutu, Zimbabwe. The study showed that 72% of the ECD centres were physically not suitable for students with disabilities. The external infrastructure and the classroom movable infrastructure did not meet the minimum standards for a disability user friendly environment. In contrast, the University of Zimbabwe (UZ) library is a success story in implementing library inclusion to students with disabilities. Kusekwa, Munyoro and Chikonzo (2018) reported that a physically accessible area was identified in the UZ main library and redesigned into a special needs corner reserved for access by students with disabilities. In addition to refurbishment, new furniture including chairs and computer desks were brought into the library for the convenience of students with disabilities.

Assistive technologies adopted in libraries for use by students with disabilities
Assistive Technologies (AT) are electronic solutions that enable people with disabilities to independently access Information and Communication Technologies (ICTs) and fully utilise information (ASCLA, 2001). Worldwide, people with disabilities have experienced significant changes in the last decade with new regulations, legislation and standards being adopted to increase their social integration and participation in public life (Dragoicea et al., 2009). Assistive technologies and ICTs

help students with disabilities to learn and interact and enhance their access to information. Cahill and Cornish (2003) argued that it is imperative that academic libraries adopt ATs which are essential in ensuring equitable access to information for people living with disabilities. It is important to value these technologies because access to ICTs is a major determinant of how information rich or information poor a country is (Machingura, 2013). Developing countries are disadvantaged in terms of accessing these technologies due to inadequate infrastructure and other resources needed to set up and maintain these technological tools. The introduction and maintenance of ATs by academic libraries in developing countries is not always a straightforward matter, due to severe budgetary constraints.

There are quite a number of assistive technologies available online and offline, open source or proprietary. Assistive technologies include mobility devices such as walkers, wheelchairs and electric scooters, as well as communicative equipment such as hardware, software and peripherals to assist the visual, hearing, speaking and motion-impaired populace (Akakandelwa, Stalonc and Adibo, 2012). According to the Association for Specialized and Cooperative Library Agencies (ASCLA) (2001), the library can offer adaptive hardware such as trackball mice, large print keyboards, headset and microphones; which would largely benefit the visually impaired patrons. Intellikeys keyboard can also be offered to facilitate the use of personal computers for students with physical disabilities who have difficulties in typing on a standard keyboard. Information can be provided through digital media which will assist students with hearing impairment (HI). Teletype or Telecommunications Device (TTY/TDD) for the deaf can be adopted by libraries to assist students with hearing impairment to communicate directly with the library via a teletype machine (ASCLA, 2001).

Solanki and Mandaliya (2016) have suggested a number of modern applications which can be used in libraries for assisting patrons with disabilities. For the visually impaired, Ariadne GPS can be used to track the position of the blind, and help them navigate using talking maps. This can be especially helpful in academic libraries where classrooms and the library may be wide apart. Tap-tap is an application that will vibrate and flash a light from the device if there is any noise in the vicinity. This can be adopted by libraries to improve signature in the library, for students with hearing impairment to get the message when there is fire or siren alert or when someone is knocking. Tap-to-talk is another application that can be used by

academic libraries to assist students with speech disabilities. This technology can store photographs and pictures from other information sources, so instead of words, students can use these to enhance communication.

It is evident that in this information age, it is no longer adequate for academic libraries to only provide access to print and electronic resources. The bar has been set higher and assistive technologies should be adopted to cater for patrons with disabilities. Burke (2000) asserts that user friendly libraries should offer these technologies that would improve the learning and researching experience for students with disabilities. Challenges to the full use of ATs remain, however. Some academic libraries are still to integrate assistive technologies in their information systems. This is proven by a study conducted by Majinge and Stillwell (2014) on the information seeking behaviour of blind and visually impaired students in South Africa. Results showed that the University of KwaZulu-Natal library has adopted the new technologies. Information for students with disabilities is also now provided in electronic format. However, students who were required to conduct extensive research and consult a wide variety of sources were frustrated as they used the library database which had some missing software. Other factors that frustrate usage of ATs by students with disabilities include lack of promotion of the resources and lack of skills on the part of students who are meant to use the resources (Ekwelem, 2013; Majinge and Stilwell, 2014). Students with disabilities need to be made aware of available ATs and to be trained in the use of the not so common media.

The extent to which the format of materials in libraries accommodates students with disabilities

Libraries must have their collection in various formats to meet the different information needs of their users (Adetoro, 2009). Solanki and Mandaliya (2016) have suggested the use of the Digital Accessible Information Systems (DAISY) by academic libraries to provide inclusive access to information resources. This is a file format that can help patrons with low vision. Through this format, one or more digital audio files contains a human or pre-recorded synthesised narration of part or all of the source text; a marked-up file containing some or all of the text; a synchronisation file to relate markings in the text file with time points in the audio file; and a navigation control file which enables the user to move smoothly between files while synchronisation between text and audio is maintained. Other desirable formats to

cater for people with visual impairment include books in Braille and audio. Vicente and Lopez (2010) claim that appropriate formats help people living with disabilities to eliminate many of the disabling barriers that impair or completely prevent them from accessing information and participating in many activities. Researchers such as Seyama (2009) and Adetoro (2009) bemoan the record of African academic libraries when it comes to providing library material in appropriate formats for people living with disabilities.

Adetoro (2009) complained that in Nigeria academic libraries and their chief funders have neglected resource formats that are suitable for people with visual impairments. The same researcher discovered the same situation in Kenya, Tanzania and Malawi where libraries preferred to invest in resources used by the majority of their patrons, thus neglecting people with disabilities who are in the minority. Financial constraints seem to be at the heart of the segregation of people living with disabilities insofar as the provision of alternative formats of materials is concerned (Sheldon, 2001). It costs considerable amounts of money, usually in foreign currency, for libraries in developing countries to acquire materials in varied formats. It is also a huge expense for libraries in terms of money and time to convert regular materials into formats suitable for people with disabilities. The unfortunate default position for many financially hamstrung and understaffed libraries is to ignore alternative formats and focus on that which can be accessed by many of their clients.

It is critical that governments, philanthropic organisations, and foreign donors aid libraries in developing countries to acquire alternative formats for the benefit of people with disabilities. This model has been used even by libraries from the supposedly rich countries. A study conducted by Koulikourdi (2008) on library services for people with disabilities in Greece showed that while the financing of special equipment mainly came from the regular total library budget, six libraries reported benefitting heavily from external sources. This underscores the importance of both internal and external support for academic libraries to be inclusive (Koulikourdi, 2008). In India, organisations like Mitrajyothi, National Association for Blind (MNAB), All India Federation for the Blind (AIFB), National Institute of Visually Handicapped (NIVHI), Daisy Forum of India (DFI), Saksham and Blind Relief Association (SBRA) work harmoniously to develop materials for persons with visual impairment (Saksham Trust and Indian Institute of Technology, n.d). While more

could still be done in India, there are at least some concerted efforts which interested organisations and funders in Africa can learn from.

The need for staff training to serve patrons with disabilities

Training library staff to deal with students with disabilities is very important and can contribute to the use or non-use of library services by students with disabilities. A lot of advocacy associations have pushed for further training for librarians so as to best support the needs of students with disabilities. Despite this recent push for training within the profession there seems to be a lack of discussion on what type of formal training should be provided to the librarians (Anjode, 2010). The important role of empowering the library staff with skills to serve students with disabilities might be unnoticed by librarians and other key players due to their lack of close relationship with students with disabilities but partnering with the right people can solve this problem and ensure inclusion is practised in the library (Anjode, 2010). Perrault (2011) has drawn international attention to the need for further-refined research exploring the role librarians play in meeting the needs of students with disabilities. Few studies have extensively examined the expected contents of the modules which librarians are meant to take in special education to cater for students with disabilities (Perrault, 2011). It is one step in the positive direction that librarians are willing to learn more on how best they can serve students with disabilities.

Perrault (2011) investigated six New York State public schools and examined the relationship between school librarians and Special Education (SPED) teachers. The study also evaluated their instructional partnership and potential for collaboration. Findings showed that teachers were interested in providing better support for their students, but were frustrated by the search for resources that met the special needs of their students. School librarians saw the need for a wide range of multimodal approaches and played to their strengths as leaders and information gatekeepers, but gaps in optimising the situation for SPED teachers and students were identified as stemming from lack of training within coursework in library and information science post-graduate degree programs (Perrault, 2011). Inclusive schools also need librarians to be trained on special needs education like their teacher counterparts so as to improve the learning experiences of students with disabilities.

According to Belger and Chelin (2013) staff development may include pre-service training through accredited library graduate programs, or in-service professional development, especially for academic librarians who are serving students with disabilities in colleges. This training should address skills to interact with students who have various forms of disabilities. Successful communication between the librarian and patrons with disabilities makes it easy for the library staff to assist them in services that they may need in the library. This is supported by a study conducted by Belger and Chelin (2013) on the impact of staff training in communication skills on the provision of services to students with dyslexia within a sample group of academic libraries in England and Wales. In all the interviews conducted in eight institutions, it was revealed that good communication with students with disabilities played an important role and has strengthened the referral process and improved uptake of services by such students. Belger and Chelin (2013) also remarked that library service provision could not have operated smoothly if communication with the students with disabilities was not improved.

Methodology

The study employed a qualitative approach using a case study research design. Interviews were held with sixteen students with disabilities, the chief librarian, two library assistants, and one library intern. Data were also collected through observations. The use of interviews and observations enabled the researchers to gain in-depth insight of the phenomenon under study. Interviews were appropriate because they gave the respondents room to freely express themselves and address in detail their views concerning factors influencing library use by students living with disabilities. Interviews also allowed researchers to probe further into areas they needed more information or clarification. Observations were used to augment interview data on the first research objective, dealing with the physical accessibility of UCE library to students living with disabilities.

Students with disabilities were the main respondents, as the study was about their access to information. Of the sixteen students with disabilities seven had visual impairments, six had hearing impairments, and three used wheelchairs. These sixteen constituted all students with disabilities at the institution. The chief librarian was included in the study because she sits in the College Council and contributes to policy making and strategic decision making. She understands the plight of students

with disabilities and can negotiate at a higher level for funds to be allocated to the library. The two library assistants and the library intern were included because they interact with library patrons regularly as they serve them in library instruction, at the circulation desk, and in reference and photocopying services, among other library services. They are in a position to know students' information needs.

Conducting this study raised ethical and practical considerations since the main respondents were a vulnerable group. The researchers addressed the ethical issues as follows: permission to conduct the study was sought and granted at three levels – the Ministry of Higher and Tertiary Education under which Teachers' Colleges in Zimbabwe fall, the Principal of the College, and the Chief Librarian of the institution; all respondents of the study were informed of the purpose of the study and were given an opportunity to decline participation; once respondents agreed to participate they were informed of their right to withdraw that consent at any stage in the study, a right which they were entitled to exercise without any prejudice and without suffering any loss; and students with disabilities were given an option to be interviewed alone in private or to have someone they trust around for moral support. Practically, the researchers had no capacity to interview students with hearing impairments on their own. Assistance was therefore sought from sign language experts. The collected data were analysed thematically according to the research objectives. The presentation and discussion of the results follows the same pattern.

Results and discussion

The results of the study are organised according to themes emanating from research objectives.

Physical accessibility of the UCE library to students with disabilities

The first objective assessed the physical accessibility of the UCE library to students with disabilities. The researchers observed that there is a wheelchair ramp leading into the reception area of the library. The three students using wheelchairs appreciated this ramp; however, they also highlighted some accessibility challenges that impacted on them.

First, they noted that the door into the library is normally closed and they usually require assistance to open it. This, they noted, undermined the independence that is provided by the ramp, since after using the ramp they would

still wait for someone to help them into the library by opening the door. Second, there is only one entrance into the library. This is a problem for them during peak hours when many students are jostling to get into the library. Third, the library has narrow aisles that make it difficult for someone on a wheelchair to manoeuvre. Students also noted that these aisles are often blocked by book carts, making it impossible for wheelchair bound students to pass. Fourth, students on wheelchairs complained about the height of bookshelves, which they said were too high for them. The researchers observed that librarians would prefer to fetch books for students on wheelchairs, owing to the height of shelves and lack of free movement of wheelchairs around the library. One of the students complained that this assistance from librarians reduced his independence. He wants to browse books on the shelves on his own. Finally, students on wheelchairs complained about the lack of restrooms in the library. This means every time they want to relieve themselves they have to exit the library building then come back again if they still wanted to continue using the library. This, they noted, was inconvenient for someone on a wheelchair.

Students with visual impairments complained about 'poor' signage in the library. One of the students said:

I find it difficult to move around the library and know where different books and services are because of lack of proper signage in the library. Many of the library areas are not labelled. There is only a sign that identifies the Online Public Access Catalogue (OPAC) and computers, but these signs are written in normal font size such that a person like me who needs to read big letters struggles to read the notices.

Another student with visual impairment noted that the library had no floor plan or map such that it is difficult to know where to go for different services. The lack of floor plan, the student noted, also compromised the visually impaired students in cases of emergencies as they would not readily know where to exit.

The chief librarian took pride in the ramp the library has for use by students on wheelchairs. She, however, noted that the library is still far from providing ideal services for students living with disabilities. She lamented the restrictive financial environment that the library is operating under. She also pointed to the size of the library as a major contributor to the plight of students on wheelchairs. She noted that the narrow aisles in the library were necessitated by the need to maximise storage space, because the library itself is small for its purposes. The same goes for the tall bookshelves, they are meant to accommodate as many books as possible. Library

policy is, therefore, for students who cannot reach the books or move around freely with their wheelchairs to get assistance from library staff. The two library assistants and the library intern indicated that they always stood ready to assist students in retrieving books.

The physical accessibility of the UCE library to students with disabilities falls short of the standards established by the International Federation of Library Associations and Institutions (IFLA), as reported by Irvall and Nielsen (2005). The physical accessibility standards include, among others: entrance door wide enough to allow a wheelchair to enter, automatic door opener reachable by a person in a wheelchair, clear and easy-to-read signs with pictograms, shelves reachable from a wheelchair, reading and computer tables of varying heights throughout the library, chairs with sturdy armrests, unobstructed aisles between bookcases, visible and audible fire alarm, and toilet for use by patrons with disabilities located within the library. The UCE library lacks in a number of these standards, to the detriment of students living with disabilities. Researchers such as Onatola (2007), ASCL (2008), Shelton (2014), and Bodaghi, Cheong and Zainab (2015) have lamented the exclusion of students with disabilities in the physical planning, layout, and furnishing of libraries.

Assistive Technologies Adopted in Libraries for Use by Students with Disabilities

The second research objective considered the technologies adopted by the library to assist students with disabilities to gain access to information. The chief librarian indicated that the library had a number of assistive technologies to help students with disabilities. She mentioned the availability of technologies meant to assist students with visual impairments in accessing electronic resources offered by the library. The library has the following resources for use by students with visual impairments: JAWS software, Victor Reader software, Eye Pal, Thunderstorm, and My Studio P.C. Students with visual impairments appreciated the available assistive technologies. They, however, had a few complaints. First, they complained that the library did not promote the available assistive technologies. In many cases they discover new assistive technology acquisitions in the library by accident. Second, some of the assistive technologies are incompatible with computers in the library, thus rendering them difficult or impossible to use. Many of the computers in the library are quite old, thus lacking facilities such as speakers to support audio, for example. Third, there

was no training programme to assist students with knowledge on how to use the assistive technologies. Fourth, the students complained that librarians had a tendency to keep computers with assistive technologies switched off. Possibly, as a result of the compatibility issues already highlighted.

The six students with hearing impairments complained that the assistive technologies available in the library were biased towards students with visual impairments. The library had acquired only one assistive technology for students with hearing impairments – the Sound Sentry software. The students charged that the Sound Sentry software was unfamiliar to them, and they had difficulties in using it. Since it was the only available software for them they had no other option and felt neglected. This could be an indication of lack of training, a challenge also highlighted by students with visual impairments.

The challenges faced at UCE in respect of assistive technologies resonate with what has been highlighted in literature. Machingure (2014) and Majinge and Stillwell (2014) argue that many institutions of higher learning have made effort to acquire assistive technologies; however, there were still infrastructural challenges that hamper use of these technologies. The infrastructural challenges include lack of compatible machines, poor Internet connection for technologies that depend on the internet, and electricity cuts that affect usage. Ekwelem (2013) bemoans the lack of skills by patrons with disabilities that undermine their use of assistive technologies. This is largely as a result of lack of training initiatives by libraries that offer such technologies.

The extent to which the format of materials at UCE accommodates students with disabilities

The third objective sought to examine the extent to which the format of materials at the UCE library accommodates students with disabilities. A direct question was put to students with visual impairments regarding the availability of a Braille machine in the library. All the seven students with visual impairments reported that there was only one Braille machine in the library. They complained that the available Braille machine was malfunctioning and needed to be replaced. The students said that they expected the library to have more Braille machines which they would use to type their assignments. The students expressed disappointment that only a few textbooks were available in Braille. The library also lacks large print and audio books.

One library assistant remarked that the format of information resources available in the library had a bearing on the academic performance of students living with disabilities, particularly those with visual impairments. Another library assistant noted that due to challenges they face in accessing and using assistive technologies, students with visual impairments often enquire about Braille and large print books. These are on the traditional side and are not affected by machine compatibility issues, technological skills, internet availability and electricity cuts. The library assistant, however, noted that the library does not have many resources in Braille and does not stock any large print books. Asked about this the chief librarian indicated that the library deemphasised Braille material and large print books when it started the project on assistive technologies, since it was assumed these technologies would eliminate the need for traditional resources. The affected students, however, differ. They still regard Braille and large print books as critical, especially considering the challenges they face in accessing and using assistive technologies. Some students also indicated that they were more comfortable with Braille, since that is what they have used since primary school.

Mutula and Majinge (2016) hold that shortage of information resources in Braille affects access and usage of information by students with visual impairments. Adetoro (2009) and Solanki and Mandaliya (2016) emphasise the need for libraries to stock various formats of resources to cater for their varied patrons. Vicente and Lopez (2010) argue that appropriate formats of resources help people living with disabilities access information at par with those without disabilities. Failure to provide appropriate formats of information resources is, therefore, failure to promote equality between patrons living with disabilities and those living without disabilities.

The Need for Staff Training to Serve Patrons with Disabilities

The fourth objective examined the extent to which the library staff at UCE had been trained to serve students with disabilities. The chief librarian revealed that the staff received a once-off training through a workshop on how to handle students with disabilities. The training, offered by King George VI, a school that specialises in teaching students with disabilities, was limited in scope, as it only focused on sign language. The chief librarian claimed that this training has worked well in ensuring good relations, rapport and cooperation between students with hearing impairments and staff at UCE. She, however, said library staff members were still in need of

further training to cover other forms of disabilities. For example, she indicated that staff members were yet to learn how to use assistive technologies. This explains why the library is not providing any training to students with disabilities in the use of assistive technologies.

The library staffs, according to one respondent with visual impairment, need to be capacitated in terms of the management of students with disabilities, especially as it relates to offering assistance to information resources access. This dovetail with the sentiments of the chief librarian, that her staff was not yet capable of offering training or assistance in the use of assistive technologies. This probably explains why the staff switch off computers with assistive technologies, as alleged by students under the first objective. Barring lack of skills, students with disabilities said they have a good relationship with library staff. Students on wheelchairs indicated that they get staff assistance in fetching books, although they would prefer to do this on their own were the shelves not too high and aisles not blocked by book carts. The two library assistants and an intern indicated that they would appreciate continuous training in handling students with disabilities, focusing on all disabilities, so that they are more useful to their patrons.

Authors such as Anjode (2010) and Majinge and Stilwell (2014) have highlighted the need for the training of librarians to serve patrons with disabilities. Unfortunately, such trainings have not yet taken root in African libraries (Majinge and Stilwell, 2014). Perrault (2011) calls for well-considered, well-defined training programmes for librarians, since it is currently unclear what training should be offered to librarians in respect of patrons living with disabilities. Belger and Chelin (2013) advocate for multifaceted training initiatives, including specialised graduate academic programmes and in-service professional development for academic librarians dealing with students with disabilities.

Conclusions

The purpose of the study was to investigate factors that affect library usage by students with disabilities at UCE. The researchers now make conclusions for each objective:

Physical accessibility of the UCE library to students with disabilities

While the UCE library has taken some steps to enhance physical accessibility for students living with disabilities, like the provision of a wheelchair ramp, there remain some challenges. These include lack of multiple entrances into and exit out of the library that affects students on wheelchairs during peak hours and in cases of emergencies, a perpetually closed entrance door that affects wheelchair access, narrow aisles that make it difficult for the wheelchair bound to manoeuvre, blocked aisles, high bookshelves, lack of toilet for use by students with physical disabilities, and poor signage and lack of floor plan to assist the movement of students with visual impairments in the library.

Assistive Technologies Adopted in Libraries for Use by Students with Disabilities

The UCE library has made great strides in providing assistive technologies for students with visual impairments. The library has, however, lagged in providing the same for students with hearing impairments. The commendable efforts made by the library in providing assistive technologies for students with visual impairments is however, hampered by a myriad of challenges that include lack of compatibility of the technologies with the library's old computers, lack of promotion of the technologies, lack of skills by both staff and students, Internet challenges, and electricity cuts.

The extent to which the format of materials at UCE accommodates students with disabilities

The study concludes that UCE library does not have the required variety in formats of materials to accommodate students with disabilities. The library has one old, malfunctioning Braille machine and only a few Braille books. There is a total absence of large print and audio books. This undermines accessibility of information to students with visual impairments, especially that there are challenges with assistive technologies, as already cited above.

The Need for Staff Training to Serve Patrons with Disabilities

The study concludes that UCE library staff is ill equipped to handle the needs of students with disabilities, having only undergone limited, once-off training that focused only on sign language to the exclusion of all other forms of disabilities. This

ill equipment is reflected in many facets of the library's service to students with disabilities, not least the lack of skills in handling assistive technologies.

Recommendations

The researchers suggest the following recommendations to address the challenges identified in this paper. The recommendations are organised according to the four themes addressed in this study:

Physical accessibility of the UCE library to students with disabilities

- Income generated by the library like fines and fees paid by external researchers must be ploughed back into the library. This can enable the UCE library to purchase new computers and other equipment needed in the library to avoid incompatibility issues currently frustrating the use of assistive technologies;
- The library needs to establish more points of entry and exit so as to relieve the pressure students with disabilities face during peak hours and also as a way of enhancing escape routes for students during emergencies such as fire;
- Library should lobby the College authorities for additional library space. This would eliminate the need for high shelves and narrow aisles that frustrate the use of the library by students on wheelchairs. This does not necessarily entail a costly capital project of building a bigger library, an additional big room from the available classroom blocks would suffice. This arrangement would, however, introduce the problem of students with disabilities having to move between two buildings for library services;
- There should be a designated place where book carts are parked after use so that they are not left blocking the already narrow aisles, thus frustrating wheelchair users;
- The wheelchair access ramp should be fitted with railings on both sides as a safety measure;
- The entry and exit doors (or doors if the library adds more) should be fitted with an automatic door opener reachable by a person in a wheelchair;
- Restrooms for students with disabilities should be introduced within the library; and,

- The library should consider introducing reading and computer tables of varying heights throughout the library to accommodate students on wheelchairs and those with other physical challenges.

Assistive Technologies Adopted in Libraries for Use by Students with Disabilities

- Acquisition of assistive technologies and devices must be balanced across different disabilities. The UCE library has not invested much in assistive technologies for students with hearing impairments. Efforts should be made to acquire hearing aids and other tools for use by students with hearing impairments;
- The library should prioritise promotion of available assistive technologies so that the intended beneficiaries get to know about them;
- The library should, as a matter of urgency, build capacity to train students in the use of assistive technologies; and,
- Librarians should look for alternative sources of funding than relying entirely on the parent organisation because most assistive technologies need infrastructural support which is costly to acquire and maintain.

The extent to which the Format of Materials in Libraries Accommodates Students with Disabilities

- In addition to assistive technologies, the UCE library must still invest in Braille resources and large print and audio books. This will broaden the choice for students with visual impairments and help minimise the impact of the challenges the library is currently facing in providing uninterrupted access to assistive technologies.

The Need for Staff Training to Serve Patrons with Disabilities

- The UCE library should invest in continuous training that covers all forms of disabilities so that its staff members are well-prepared to handle and assist students living with disabilities; and,
- Tertiary institutions offering Library and Information Science in Zimbabwe should include modules dealing with service provision to patrons with

disabilities in their diploma and degree programmes. In addition, specialised postgraduate programmes should be instituted to deal with the same.

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