# Access to Library Resources by Visually Impaired Students at Institutions of Higher learning, Zimbabwe

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***Abstract:*** **Library patrons with special disabilities have often faced many challenges in making optimum use of the resources that are provided by academic libraries, in Zimbabwe. This study focused on the visually impaired (blind) students in particular, who have for a very long time faced challenges in accessing information in most African countries. The aim of the study was to investigate the establishment of Disability Resource Centres (DRCs) and the assistive technologies that are currently being used by visually impaired students in academic libraries in Zimbabwe. The study used the qualitative research design and survey strategy of research. The study population included (9) nine librarians and (30) thirty visually impaired (blind) students. The libraries under study included Midlands State University Library, National University of Science and Technology Library and The Dorothy Duncan Centre. The researchers decided to carry out this study at these three institutions because they are located in different regions of the country. Therefore, the results obtained from participants in these different geographic areas may vary which gives an accurate situation of the provision and use of assistive technologies in these institutions. Questionnaires, interviews and observation methods were used for data collection. The collected data was presented in form of graphs, tables, pie charts and qualitative statements which depicts responses from participants during interviews. The Social Model of Disability was used, for guiding the research. The study findings revealed that Zimbabwe is still lagging behind in terms of establishing Disability Resource Centres as well as provision of assistive technologies in these Centres. The study also established that there is inadequate assistive technologies in the few established Disability Resource Centres in Zimbabwe. Academic libraries are not receiving funding from authorities for them to be able to establish DRCs. The study recommends that, Universities in Zimbabwe ought to establish Disability Resource Centres (DRCs) as well as setting aside funds for purchasing of assistive technologies to be used by visually impaired students. In addition staff in DRCs and students with blindness or visual impairment should be trained in the use of assistive technologies for them to be able to make optimum use of the technologies. There is also need for promoting inclusivity in academic libraries in Zimbabwe, this can be achieved if university authorities, lecturers and librarians change their attitude towards disabled students.**

***Key words*** **: Disability, Assistive technologies, Disability Resource Centre.**

## I. INTRODUCTION

The purpose of this study was to find out the extent to which Academic Libraries in Zimbabwe have established Disability Resource Centres. As well as to ascertain the various types of assistive technologies that can be used by the visually impaired (blind) patrons in Academic libraries which have Disability Resource Centres. This study aimed at contributing to theory, research, practice and policy. Thus, by identifying and analysing the existing assistive technologies being used by visually impaired (blind) students in academic libraries in Zimbabwe. The study hoped to sensitise relevant authorities such as, policy makers to start drafting policies that aims at provision of assistive technologies in libraries, university management to prioritise funding of infrastructure for Disability Resource Centres. The study was limited to studying DRCs and assistive technologies for the visually impaired (blind) students in Academic Libraries in Zimbabwe. Through this research study librarians were encouraged to appreciate the need to train, improve the quality of service and use variety of assistive technologies in their libraries to assist the visually impaired.The research also empowered the visually impaired library patrons to use state of the art Disability Resource Centres which are equipped with a variety of modern assistive technologies. Furthermore, society in general was reminded to observe the rights of disabled students as well as granting them easy access to information and other resources.

### *Statement of the problem*

Through observation there is a group of familiar library users who frequent the library in pairs, a visually impaired (blind) student being led by another student who is not blind. Through further inquiries, it was revealed that the other student who is not blind will be leading the blind student around the library as well as selecting information sources and borrowing them for the blind student. It was also learnt that when the blind or partially sighted students are not using printed braille information sources the sighted students also help their friends by reading books and journals for them. All the above scenarios, triggered the researchers to ask questions such as; what could be done to improve this situation, are there no other information sources that can be used by visually impaired students apart from braille information

sources, books and journals that are used by the sighted students. What are the current trends in library and information science technology?, What assistive technologies are being used in Academic Library Disability Resource Centres in Zimbabwe?.

This study was guided by the following objectives;

i. To establish the extent to which academic libraries have established Disability Resource Centres in Zimbabwe.
ii. To identify the various types of assistive technologies used by visually impaired students in academic libraries in Zimbabwe.
iii. To ascertain the challenges faced by academic libraries in establishing Disability Resource Centres for those libraries which do not have these Resource Centres.
iv. To establish whether the librarians and library patrons have received training in the use of assistive technologies.

## II. RESEARCH METHODOLOGY

The study used qualitative research design because it is concerned with studying a phenomena in its natural state. Qualitative research design was also suitable for this study because the research was not concerned with testing a theory or proving a hypothesis, instead it was concerned with exploring the establishment and use of assistive technologies in Disability Resource Centres, as well as generating a theory after the results. This study used the interpretivist philosophy which is also referred to as the anti-positivist or post positivist approach. The reason being that it differs from the positivist approach of conducting research which relies on experiments, while the interpretivists believe in conducting surveys and observations to gather information from research participants to understand their perceptions, views, opinions and attitudes about particular phenomena. The sample size of this study comprised of 9 librarians and 30 visually impaired (blind) students. Thus, 3 librarians were selected from each of the 3 University Disability Resource Centres studied. The 10 visually impaired (blind) students were selected from Midlands State University, then 20 students were from the Dorothy Duncan Centre for the Blind, while at National University of Science and Technology there were no students with visual impairments, only 3 librarians were studied. This study used probability sampling technique which is a method that gives each person in the universe an equal chance to be selected for the sample. Gerrish and Lacey (2010) asset that probability sampling means that each unit in the target population has an equal chance of selection. The study made use of three instruments for data collection which were interview guides, observation schedules and questionnaires.

## III. LITERATURE REVIEW

Information Communication Technology (ICT) and other related assistive technologies have brought hope to many students with visual impairment because it affords them the opportunity to access learning materials which they previously could not access (Hollier, 2007). In this 21st century, where ICT are dominant across all nations, students with visual impairment can now access learning materials or information through voice synthesizable library books, voice readable graphics, computer monitors with audio output and digital enlargeable (zoom text) to mention just a few services. Furthermore, students with visual impairments can also use internet to access information globally and to perform other online services (Hollier, 2007). According to Watling, (2011) and Lane- Fox (2010) ICT has brought about effective learning and a positive learning experience to students with visual impairments particularly those who are at institutions of higher learning. Learners with disabilities have historically faced discrimination, especially in Africa communities. Thus, individuals who are blind were often discarded at birth, abandoned, housed in sanitariums or socially excluded from their communities (Koestler, 2004).

Willsher (2009) states that the physically disabled student has often been marginalised or ignored and has been inappropriately placed in the same category as other minority groups in higher education. Because of either a physical or learning disability, disabled students have been much more challenged in educational environments than other groups of students. Ekwelem, (2013) states that, in recent times a good number of articles have discussed technologies that would enable students with disabilities to take full advantage of library services. However, the sad truth is that the proliferation of information does not guarantee accessibility and also availability does not equate to accessibility, in most African academic libraries. This scenario is in contrast with the International Federation of Library Associations and Institutions (IFLA) and UNESCO's, Public Library Manifesto of (1994) which emphasis that libraries must promote inclusivity and not discriminate on the bases of age, race, sex, religion, nationality, language or social condition.

Information is vital to all human beings so every academic library should aim to provide the right information at the right time and in the right format to its clients regardless of race, religion, age, nationality, language and people with disabilities. It is the duty of every library to provide proper services to those who do not have easy access to them, such as the mentally and physically disabled, the ill and the imprisoned. In Zimbabwe, of late and even upto now universities across the country attract a few students with disabilities because of inadequate facilities and formats that suits their disability status. Shoko (2016) observes that, for more than a decade of socio-economic challenges many people living with disabilities in Zimbabwe are among the most marginalised and excluded group of people compared to their peers they are less likely to access health, education and other services. They are often excluded from opportunities to participate in their communities and are more vulnerable to segregation, violence and abuse.

The American Library Association (ALA) (2008) has long hailed that libraries were places where people could access and exchange information in a manner that was undeterred by predisposed policies and barriers. The (ALA) statement states that the work of the association of libraries is to ensure access to information and enhance learning and ensure access to information and the preamble to the Library Bill of Rights clarifies that all libraries are forums for information and ideas (ALA, 2008). In 2008, the ALA offered an interpretation of this Bill of Rights as applies to persons with disabilities. In part it reads "ALA recognises that persons with disabilities are a large and often neglected part of society". In addition to many personal challenges, some persons with disabilities face economic inequality, illiteracy, cultural isolation and discrimination in education, employment and the broad range of societal activities. The library plays a catalytic role in their lives by facilitating their full participation in society (ALA, 2009).

Saumure and Given (2004) articulates that,since they cannot use traditional print materials and must use alternative means of accessing academic information (Braille, audio books and electronic documents) which in most cases are not readily available, the blind or visually impaired learners can be regarded as marginalized in their information seeking. However, while recent reports indicated that persons with disabilities are still on the economic margins of society. More and more students with disabilities are graduating from higher education institutions (Statistics Canada, 2008).

Mates (2000) says with recent advances in adaptive technologies people with visual impairments are gaining ground in the stamped for gaining access to information and their ability to locate information has been enhanced. Dermody and Majekodunmi (2011) concur by asserting that there is no doubt that technology has opened the door for students with disabilities. Thus, from screen readers to augmentative communication programs, persons with disabilities can attend classes, participate in discussions, and read and write assignments independently.

Libraries have usually been early and enthusiastic adopters of new information technologies (Mahmood and Richardson, 2011) quoted by Matingwina (2014). Lukasiewicz (2007) quoted by Matingwina (2014) observed that the technological environment is ever changing and this has transformed the traditional role of academic libraries. Lukasiewicz (2007) further elaborated that the academic libraries are expected to serve more and more users with diverse needs in an ever changing environment. Therefore academic libraries should be more proactive in offering better services.

A similar research was carried out by Chomba (2009) at Kenyatta University in Kenya and Syracuse University in USA to study assistive technology and access to quality instruction for blind and visually impaired students. The results of this study are different from those of the study carried in Zimbabwe because the results indicate that there are several modern assistive technologies at University of Syracuse such as smart boards, tape recorders, CCTVs, embossers, magnifiers, JAWS, Ipods, Ipads and Iphones, magic dictate, Dragon Naturally, , and scanner with digital converter. The University in addition had Kurzweil 100 and Kurzweil 3000. These are voice output optical character recognition devices which are designed for use by individuals who are blind or have low vision (Hasselbring and Glaser, 2000) furthermore Kenyatta University had a variety of assistive technologies like those at Syracuse.

## IV. DISCUSSION AND FINDINGS

The researchers distributed questionnaires to respondents and also conducted interviews. The breakdown showing questionnaires issued against the questionnaires returned (response rate) is shown on the table and chart below and it is expressed in percentages.

*Response Rate*

Table 1. Questionnaire and interview response

| | Questionnaire Issued | Questionnaires Returned | Percentage of Return |
|---|---|---|---|
| Respondents | 39 | 28 | 72% |
| Total | 39 | 28 | 72% |

*Gender*

The pie chart below reflects the gender of the subjects. Out of the total number of 28 respondents, 54**%** of the subjects were male, and 46 % female. There was an almost balance of gender.

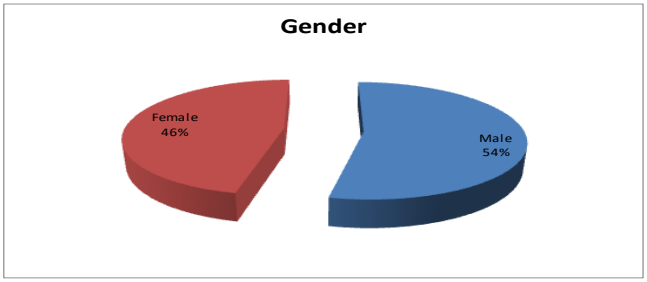


Figure 1. Response Rate

*Current status pertaining to the establishment of Disability Resource Centres*

Table 2. shows that the majority (92.9%) of the respondents indicated that their libraries have established a Disability Resource Centre and 7.1% indicated that they don't have such developments.

Table 2. Our library has a disability resource centre

| | | Frequency | Percent | Cumulative Percent |
|---|---|---|---|---|
| | Yes | 26 | 92.9 | 92.9 |
| | No | 2 | 7.1 | 100.0 |
| | Total | 28 | 100.0 | |

*Face to face interview with NUST Library Staff*

The Researcher conducted face to face interviews with 2 staff members of the NUST Library, a Systems Analyst and the other one is a Chief Library Assistant.The NUST Library staff members divulged that NUST Library does not have a Disability Resource Centre.

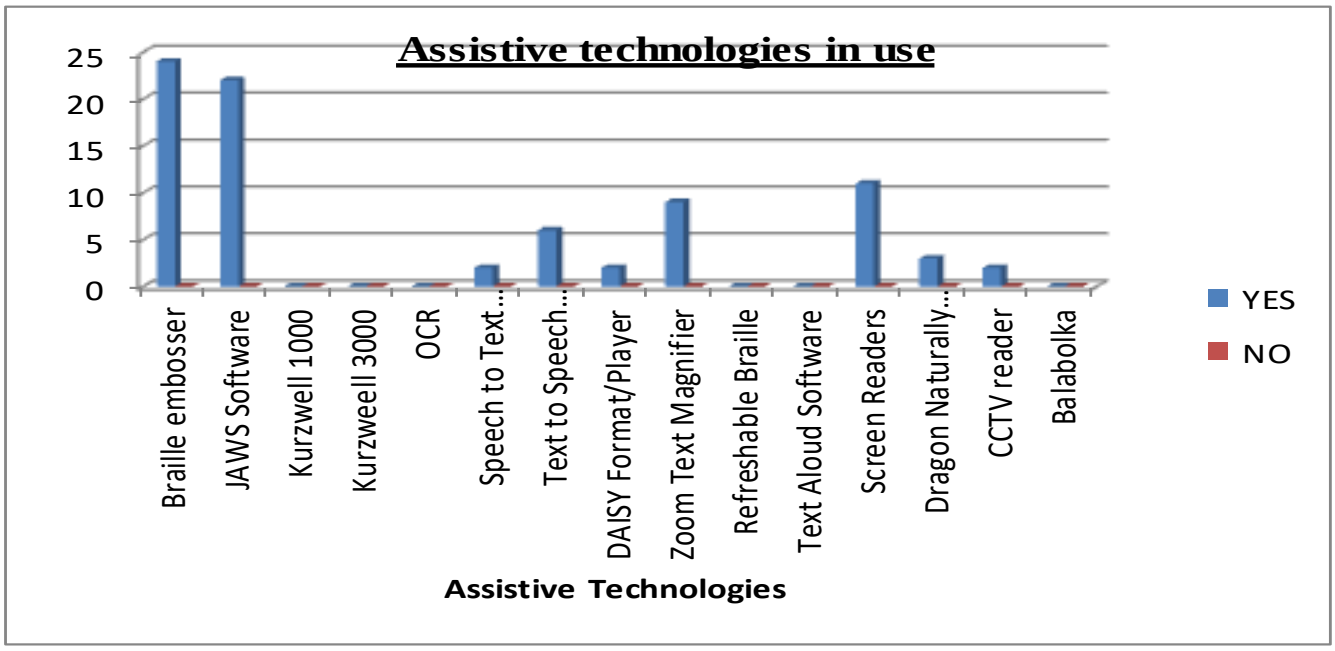


Figure 2. Assistive technologies in use

Figure 2. above gives assistive technologies in use for blind and visually impaired students in academic libraries in Zimbabwe. The most common as shown from the graph are Braille embosser, JAWS software, Speech to text software, Text to speech software, Daisy format/player, Zoom text magnifier, Screen readers, Dragon naturally speaking and CCTV readers. At least 79% of the respondents indicated that Braille embosser (86%) and JAWS software (79%) are the two most common across academic libraries in Zimbabwe.

*Challenges that are faced by libraries in establishing Disability Resource Centres*

Challenges in establishing a Disability Resource Centre at NUST

i. Lack of Policy, the NUST disability policy was drafted and abandoned before it was adopted and implemented.
ii. Lack of resources such as hardware and software.
iii. Lack of financial resources.
iv. Negative attitude towards the disabled students.
v. Lack of appreciation of the disabled students.
vi. Low numbers of students with disabilities at NUST.

During the discussion the librarians revealed that in the library there was 1 disabled librarian who is deaf. The librarians also mentioned that there is a blind lecturer at NUST who frequents the computer laboratory in the library. The librarians said the visually impaired lecturer visits the computer laboratory in the company of someone who will assist him in accessing information resources. Unfortunately the librarians also disclosed that ,this visually impaired lecturer lost his sight whilst working with chemicals in a laboratory in his department of chemical engineering.

Pertaining to the issue of low numbers of students with disabilities at NUST, the researchers suggested that if NUST where to advertise in the print and electronic media that it is now enrolling students with disabilities may be 30 to 40 students would come and enrol with the Institution, and one of the librarians concurred by saying not only 30 to 40 students but hundreds of students would come to NUST.

*Face to face interview with Midlands State University DRC Librarian*

Midlands State University is the second university in Zimbabwe with a Disability Resource Centre, coming after University of Zimbabwe (UZ). The Midlands State University Disability Resource Centre has 5 Librarians, 1 operates as the coordinator, the other one is responsible for producing braille material books and examination papers, the other works in the computer lab and the other 2 work in the library.

The researchers interviewed one of the librarians at Midlands State University who revealed that the Resource Centre has not been established according to the expected standards because of a number of reasons cited below.

Challenges in providing assistive technologies at MSU

i. Lack of funding.

ii. Lack of adequate assistive technologies.
iii. Disabled students struggle to pay their fees at MSU.
iv. Inadequate training on the use of assistive technologies.

However, the Senior librarian at Midlands State University DRC revealed that she talked to the librarian about the issue of resourcing the DRC and she was promised that she would receive funding for more resources. The Researchers asked the Senior Librarian why MSU admits few students with disabilities and she responded by saying the reason is because MSU requires students with disabilities to pay fees which is unlike the University of Zimbabwe which admits more students because the students do not pay fees.

*Face to face interviews with librarian of Dorothy Duncan Centre for the Blind*

Dorothy Duncan Centre for the blind is the only Centre for the blind in Zimbabwe which offer a number of services for visually impaired students and other blind users such as parents. The centre provides library services, rehabilitation services and training to visually impaired students who are registered with the institution. The researchers interviewed the Librarian at Dorothy Duncan Centre who also took them around the institution showing them the various departments, such as the library, the training laboratory, the rehabilitation section and audio studio. The Librarian also said Dorothy Duncan Centre library serves 2000 students every year.

Library Services at Dorothy Duncan Centre

i. Training of new students on how to use assistive technologies.
ii. Rehabilitation training on using mobility devices such as white cane.
iii. Provision of braille books to 62 primary and secondary schools.

The Dorothy Duncan Centre Librarian also revealed that the Centre also provides 62 schools with braille books which are supposed to be returned at the end of the year fore- binding because some of them would have some torn pages. The schools are also allowed to donate the books to other schools that need the books. The researchers observed 2 blind students receiving training on how to use the library software. A brief discussion with the students revealed that 1 of the students got blind at the age of 48 years due to a health problem of Glaucoma, and the other student said he got blind in 2015 after completing his 1st degree at Midlands State University the cause of blindness was Meningitis.

Challenges in providing assistive technologies at Dorothy Duncan Centre

i. The assistive devices are not enough.
ii. The devices that are currently used needs to be updated.
iii. It is very expensive to change the materials.

*The need for additional assistive technologies at the library*

While all respondents acknowledged the establishment of a Disability Resource Centre, all indicated the need for more assistive technologies in academic libraries. This is shown in the following figure.

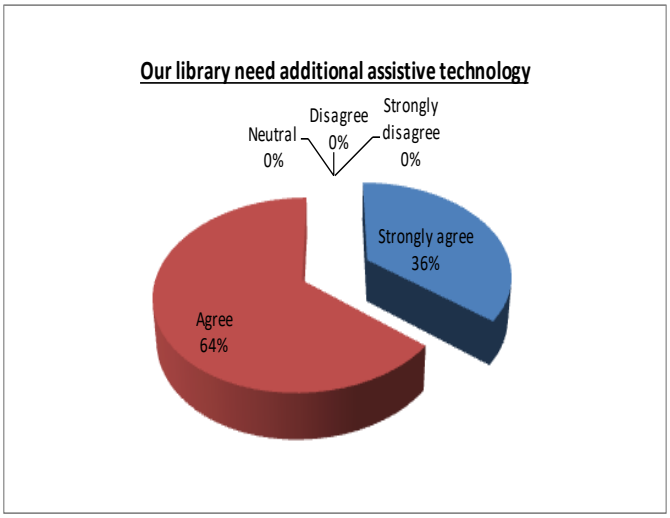


Figure 3. Usage of assistive technologies per week

The following figure show usage of assistive technologies by respondents more frequently. More than half (57%) are in frequent use compared to 43% who do not frequently use assistive technologies.

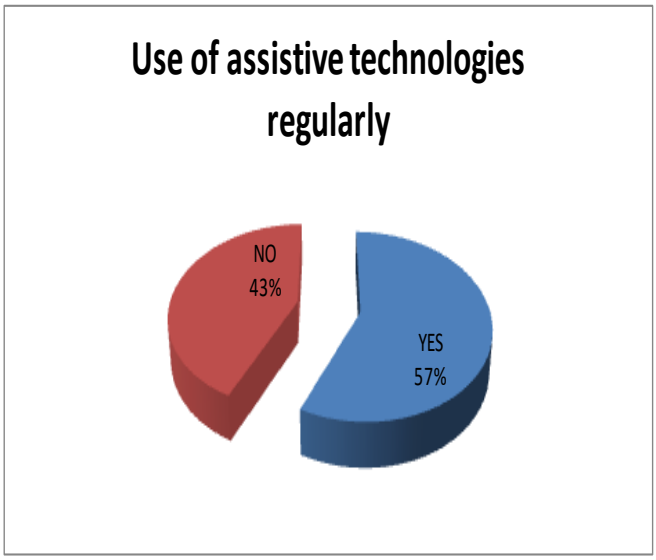


Figure 4. The Efficiency of assistive technologies in accessing information at the library.

Slightly above half of the respondents (52.4%) were for the idea that current assistive technologies in academic institutions are efficient in accessing information. The difference (47.6%) was against. The table below gives more information.

| Table 3. | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Yes | 11 | 39.3 | 52.4 | 52.4 |
| | No | 10 | 35.7 | 47.6 | 100.0 |
| | Total | 21 | 75.0 | 100.0 | |
| Missing | System | 7 | 25.0 | | |
| Total | | 28 | 100.0 | | |

*The assistive technologies in our library enable students easy access to Information*

In terms of easy access to information using assistive technologies, the following table indicates that 85.7% of the respondents were in agreement that assistive technologies enable easy access to information. The remainder (14.3%) were somehow against.

| Table 4. | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Yes | 18 | 64.3 | 85.7 | 85.7 |
| | No | 3 | 10.7 | 14.3 | 100.0 |
| | Total | 21 | 75.0 | 100.0 | |
| Missing | System | 7 | 25.0 | | |
| Total | | 28 | 100.0 | | |

*The assistive technologies in our library are adequate*

However still on assistive technologies in academic institutions, 75% of the respondents indicated that there is need to add more since they felt the current technologies in use are not adequate, 25% were in between. The following table gives finer details.

| Table 5. | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | No | 21 | 75.0 | 100.0 | 100.0 |
| Missing | System | 7 | 25.0 | | |
| Total | | 28 | 100.0 | | |

*Staff training on the use of assistive technologies*

A cumulative 85.2% of the respondents agree to strongly agree that the staff was trained on how to use assistive technologies as shown in the following bar chart. 7.4% neither agreed nor disagreed and 7.4% disagreed.

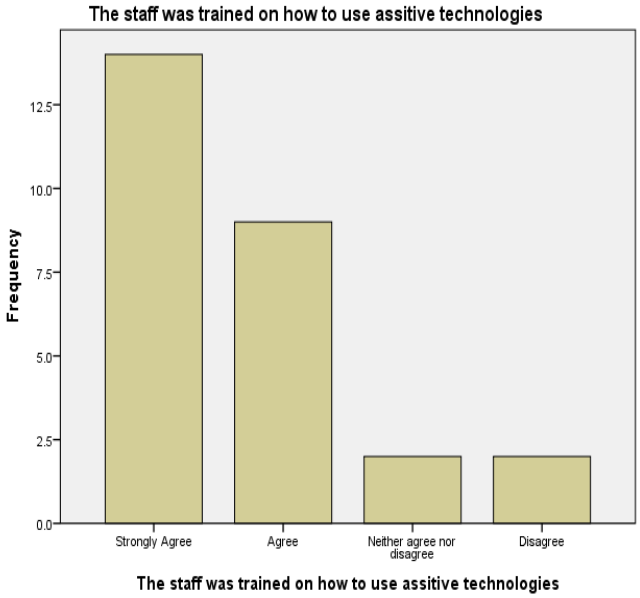


Figure 5. The students were trained on how to use assistive technologies

Regarding students the following table indicates that 57.1% were trained on how to use assistive technologies against 42.9% who are yet to be trained. This suggests the need for training particularly on the student side in some academic institutions.

| Table 6. | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Yes | 12 | 42.9 | 57.1 | 57.1 |
| | No | 9 | 32.1 | 42.9 | 100.0 |
| | Total | 21 | 75.0 | 100.0 | |
| Missing | System | 7 | 25.0 | | |
| Total | | 28 | 100.0 | | |

*Need for further training on the use of assistive technologies*

The following table indicates that there is need for training and or further training for efficient use of assistive technologies. 75% indicated the need for training against 25% who were neutral.

| Table 7. | | | | | |
|---|---|---|---|---|---|
| | | Frequency | Percent | Valid Percent | Cumulative Percent |
| Valid | Yes | 21 | 75.0 | 100.0 | 100.0 |
| Missing | System | 7 | 25.0 | | |
| Total | | 28 | 100.0 | | |

*The staff is willing to assist students in using assistive technologies*

Staffs in academic institutions libraries are more than willing to assist students in using assistive technologies. The following table and bar graph indicates that 90.5% are willing against 9.5% who are unwilling.

Table 8.

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Yes | 19 | 67.9 | 90.5 | 90.5 |
| | No | 2 | 7.1 | 9.5 | 100.0 |
| | Total | 21 | 75.0 | 100.0 | |
| Missing | System | 7 | 25.0 | | |
| Total | | 28 | 100.0 | | |

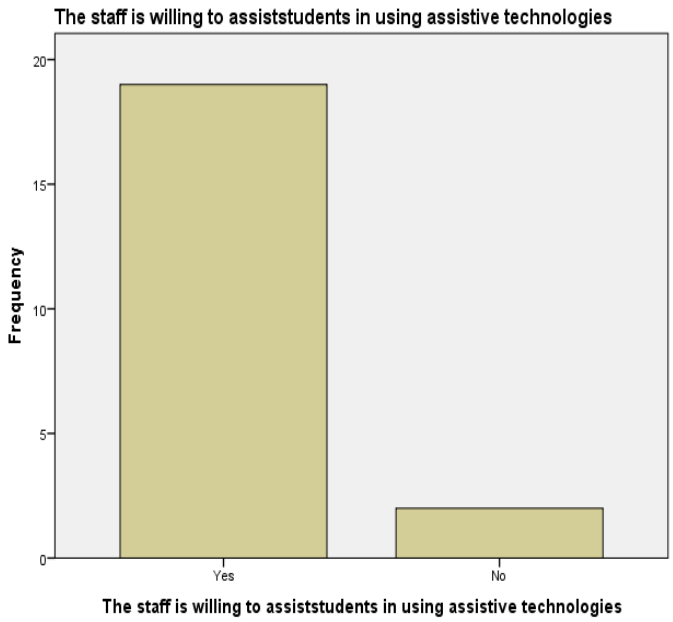


Figure 6.

The results of the study also show that academic libraries in Zimbabwe need additional assistive technologies in their libraries as indicated by the results which reveal that many students advocated for the addition of assistive technologies to their libraries than those who said the assistive technologies where enough.

The study also revealed that the variety of assistive technologies that are used in academic libraries in Zimbabwe were very few. Thus for example students use Braille embosser, JAWS software, speech to text software, text to speech software DAISY, Zoom text, CCTVs and screen readers. These assistive technologies may be available in academic libraries in Zimbabwe but were obsolete and out of order.

At NUST the study reveal that Disability Resource Centre has not been established because of lack of a policy on the admission of disabled students. This finding affirms Alemna and Dodoo's (2003) findings which show that public universities in Ghana did not have written library policies for the visually challenged students. The finding, however contradicts with that of Seyama (2009) who reveals that the University of Kwazulu Natal had a library policy for the students and staff with disabilities to ensure efficient access to information for this special group of people in the university

The study found out that academic libraries in Zimbabwe face many challenges in establishing Disability Resource Centres due to: lack of policy, lack of resources, lack of funding, negative attitudes of librarians, university policy makers, and the blind and visually impaired students. low numbers of students with disabilities and , out-dated assistive devices and software. These challenges were confirmed in other studies reviewed in the literature which revealed that the same challenges were affecting libraries in other countries.

The findings of the study also indicates that one of the barriers to the establishment of Disability Resource Centres and provision of assistive technologies to the visually impaired students is the problem of negative attitudes of stakeholders of the academic institutions. A similar study to the current was carried out by Shunmugan (2002). The results revealed that most of the identified problems such as inaccessible services and attitudinal barriers from the university community were not specific to a campus but rather to the university as a whole.

## V. RECOMMENDATIONS

- *Establishment of Disabilities Resource Centres*

When establishing an academic library the responsible authorities should ensure that Disability Resource Centres have accommodations for disabled people such as wheelchair ramps, elevators, bathrooms with facilities for the disabled and assistive technologies. This study recommends that NUST Library and MSU Library should set up an assistive technology workstation in the Main Library with various assistive technologies such as screen readers scanners, JAWS and CCTVs, like what other universities have done According to Burgastahler et al (2008) the university of Texas library has a workstation which provides computers with screen readers, screen magnifiers, word prediction software, scanners and other assistive devices. Similar provision was made at the University of Washington (Railes and MacDonald, 2006)

- *Provision of Funding*

University authorities in Zimbabwe should ensure that they provide enough funding for the purchase of assistive technologies that enable blind and visually impaired students easy access to information. Apart from funding the authorities should also engage in resource sharing with other libraries to ensure that students have access to a variety of materials.

- *Regular Upgrade of Assistive Technology Devices*

The assistive technologies in the libraries should be regularly upgraded by buying new hardware and software which are compatible with the latest assistive technology devices. In addition librarians should also ensure that blind and visually impaired and staff who work in Disability Resource Centres are regularly trained on how to use new technologies that would have been added to their library.

- *Acquisition of Assistive Technologies*

Disability Resource Centre staff should regularly buy new assistive technologies to complement the ones they have in their libraries. New technologies should also be purchased to replace old and obsolete devices.

- *Change of Attitude*

The attitude of all the stakeholders who are involved in the provision of education to disabled students should change. The university authorities should recognise the need to provide educational services to the disabled students. Lectures should be patient with disabled students and give them an extended period of time to enable them to complete assignments like their colleagues. Librarians should also be willing to assist disabled students when ever the students request for their assistance.

- *Policy on Free Education for Disabled Students*

Academic libraries should also ensure that disabled students do not pay fees like what they do in other institutions such as hospitals and clinics, this will enable the institutions to attract more students.

- *Training for Librarians and Staff*

The DRC staff should be trained in the use of assistive technologies as well as how they can impart skills on students. The students also should receive training for them to be able to use assistive technologies efficiently.

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## REFERENCES

[1] Abdullahi, I. (2009). *Global library and information science: a textbook for students and librarians.* The Hague: International Federation of Library Association.

[2] AbleData (2004). *Fact sheet on Braille writers, printers and software.* Available at: www.abledata.com/abledata-docs/Braille-writers-printers-software.htm [Accessed 2016 December 1].

[3] Abner, G.H. and Lahm, E.A. (2002)..*Implementation of assistive technology with students who are visually impaired: teachers' readiness.* Journal of Visual Impairment and Blindness 96 (2) 98-105.

[4] Alemna, A.A. and Dodoo,V. (2003). An assessment of library services for the visually handicapped in Ghana. *Journal of Association of Libraries for the Visually Impaired 2 (10):8*.

[5] Alexander, V. (2008).*GNOME Accessibility developers guide. GNOME documentation project*. Available at https://www.deveoper.gnome.org/accessibility-devel-guide/stable. [Accessed on 2017 February 27]

[6] Alt Beatty, (2011). *Literature review on the service needs of people with a sensory disability and complex needs: a report of Ageing Disability and Home Care* (Unpublished).

[7] American Library Association (2004).*Core values of librarianship*. Available at: http://www.ala.org/advocacy/intfreedom/statenentspols/caregivers [Accessed 21016 November 10]

[8] American Library Association (ALA) (2008). *Access to library regardless of sex, gender, identity, gender expression or sexual orientation: interpretation of the American Library Association Bill of Rights.* Available at:www.ala.org/ala/aboutala/offices/oif/statementspols/statementsif/interpretations/Acees%20to%20Library%20Repdf. [Accessed on 2016 November 28].

[9] American Library Association (ALA) (2009). *Service to persons with disabilities an interpretation of the Library Bill of Rights Available at:*www.ala.org/ala/aboutalaoffices/oif/statementspols/statementsif//interpretations/servicepeopledisabilities.cfm. [Accessed on 2017 March 10].

[10] Americans with Disabilities Act (ADA) (1990)

[11] Ary, D, Jacobs, L.C. and Sorensen, C. (2010). *Introduction to research in education*. Wadsworth: Cengage Learning. .Available at:http://ahero.uwe.ac.za [Accessed 2017 march 2].

[12] Babalola, Y and Yacob, H. (2011*). Library and information services to the visually impaired:the role of academic libraries*. *Canadian Social Science 7 (1): 140-147.*

[13] Babbie, E and Mouton, J. (2001).*The practice of social research*. Oxford: Oxford University Press.

[14] Babbie, E. (2013). *The practice of social research 13th edition*. Wadsworth: Cengage Learning.

[15] Barnes, C. (1991). *Disabled people in Britain and discrimination: a case of anti-racism legislation*. Available at: http://www.leeds.ac.uk/disability-studies/archiveuk [Accessed on 2016 August 4].

[16] Barnes, C. (1997). *A legacy of oppression: a history of disabilities in western countries*, In: Barton, L. and Oliver, M. (eds.) *disability studies: past, present and future*. Leeds: The Disability Press.

[17] Barnes, C. (2003). Rehabilitation of disabled people a sick joke. *Scandinavian Journal of Disabilities Research 5 (1): 7-24.*

[18] Beaton, M. (2005). Glasgow City Council library information learning services for disabled people in Glasgow. *Library Trends 54 (8) 472-8).*

[19] Beaton, M. (2005*). Person first disability second: disability awareness training in libraries*. Library Review. 54 (8): 453-458.

[20] Beauchamp- Pryor, K. (2007). *A framework for the equality and inclusion of disabled students in higher education. PhDThesis. University of Wales.*Availableat:http://www.leeds.ac.uk/disabilitystudies/achiveuk[Accessed 2016 December 01].

[21] Benard, A. (2002). *Company sees MEMs as solution for affordable Braille displays*. Small Times. Available at:http://www.electroq.com/index/display/semicondutors-article-display/267743/articles/small-times/consumer/2002/04/bcompony-sees-means-as-solutionbrfor-affordable-braille-displays-b.html [Accessed 2017 March 13].

[22] Berker, S.H., Wahl, W, Schilling, O. and Burnedi, D. (2005).The assistive device use in visually impaired older adults roles of controls beliefs, *The Gerontologist 45 (6) 739-746.*

[23] Best, J.W. and Kahn, J.V. (2006).*Research in education*. New Delhi: Prentice-Hall of India.

[24] Biggaman, J. (2008). *Succeeding with your masters dissertation: a step by step handbook.* Berkshire: McGraw-Hill.

[25] Biggaman, J. (2008). *Succeeding with your masters dissertation: a step by step handbook*. Berkshire: McGraw-Hill.

[26] Blackie, N. (1993*). Approaches to social enquiry 1st edition*. Cambridge: Polity Press.

[27] Blaxter, L, Hughes, C. and Tight, M. (2001).*How to research 2nd edition*. Buckingham: Open University Press.

[28] Booth, C. (2012). Accessibility by universal design. *Library Technology Reports 48 (7): 43.*

[29] Bowling, A and Ebrahim, E. (eds.) (2005).*Handbook of health research methods: investigation, measurement and analysis*. Maidenhead: Open University Press.

[30] Brace, I. (2008). *Questionnaire design*. London :Kogan Page.

[31] Braille Authority of North America (BANA) (2010b).*Literally Braille*. Available at:http://www.brailleauthority.org//literary/literary.html [Accessed 2017 February 8].

[32] Braille Authority of North America(BANA) (2010 a).*Publications.* Available at:http://www.brailleauthority.org/ [Accessed 2016 October 1].

[33] British Council of Disabled People (2003).*The social model of disability and emancipatory disability research: briefing document.*Availableat:http://www.bcodp.org.uk/about/researchhtml [Accessed 2016 June 3].

[34] Brockmeier, K.C. (1992*). Academic needs and information seeking behaviour of blind or low vision sighted college students. PhD dissertation*. Florida: Florida University.

[35] Bromphy, P. and Craven, J. (2007).Web accessibility. *Library Trends 55 (4): 950- 274.*

[36] Brown, M.H. (2000). Access instruction and barriers technology issues facing students and risk. *Remedial special education. 21 (3): 182-192.*

[37] Brown, M.S and Freund, I. (2010). *Services for users with disabilities*. Washington DC: Association of Research Libraries.

[38] Brownson, R.C., Hoechner, C.M., Day, K., Forsyth, A. and Sallis, J,F, (2009). Measuring the built in environment for physical activity: state of the science. *AMJ Prev Med 36: 99-123.*

[39] Bryman, A. (1989). *Research methods and organisational studies*. London :Unwin Hyman.

[40] Bryman, A. (2012). *Social research methods 4th edition.* Oxford: Oxford University Press.

[41] Bryman, A. (2016). *Social research methods 5th edition*. Oxford: Oxford University Press.

[42] Buckley, R. and Caple, J. (2007).*The theory and practice of trainers* 5th edition. London: Kogan and Page.

[43] Chartered Institute of Library and Information Professionals (2006).*Professional guidance policy and research: library and information services for visually impaired people*. Available at:www.cillip.org.uk/professional/guidance/equal/opportunities/briefings/visualhtml [Accessed on 2016 July 6]

[44] Chomba, B. (2009). *Assistive technology and access to quality instruction for blind and visually impaired students: a comparative of Kenyatta University, Kenya and Syracuse University, USA.* Thesis. University of Kenya: Nairobi.

[45] Cohen, L. Manion, L. and Morrison, K. (2007*).Research methods in education 6th edition.* London: Routledge.

[46] Cook, A.M. and Hussey, S.M. (2002).*Assistive technology principles and practice 2nd edition*. St Louis, MO: Mosby.

[47] Cook, A.M. and Hussey, S.M. (2002).*Assistive technology principles and practice 2nd edition*. St Louis, MO: Mosby.

[48] Cook, A.M., Polgar, J.M., and Hussey, S.M. (2008*). Cook and Hussey's assistive technologies: principles and practice. 3rdedition.*St Louis, MO: Mosby; Elsevier.

[49] Cooper, H. (2010*). Research synthesis and meta- analysis: a step-by-step approach 4th edition.* Thousand Oaks, CA: Sage.

[50] Cory, R. (2003). *Beyond compliance: articulation of the role of disabled students services on campus.* In:Cory. R, Taylor, S, Walker, P and White, J. *Beyond compliance: an information package on the inclusion of people with disabilities in post-secondary education.*

[51] Covington, P. (2008). *Success in sociology AS Book AQA*. Burckinghamshire: Folens Publishers.

[52] Creswell, J. (2009). *Research design qualitative and quantitative and mixed methods approaches 3rd edition*. Los Angels: Sage Publications.

[53] Creswell, J. (2014). *Qualitative and mixed methods approaches*. Los Angels: Sage.

[54] DeCandido , G.A. (1999).*Transforming libraries: issues and innovations in service to users with disabilities.* Washington DC: Association of Research Libraries.

[55] Demordy, K. and Majekodunmi, N. (2011).*Online databases and the research experiences for university students with print disabilities*. Librarians and Staff Publications. Paper 21. Available at:http://digitalcommons.ryerson.ca/library_pubs/21 [Accessed 2016 October 03]

[56] Denzin and Lincoln (2000).*Handbook of qualitative research 2nd edition.* Thousand Oaks, CA: Sage.

[57] Derlieger, P.J. (1999). From handicap to disability: language use and cultural meaning in the United States, *Disability and Rehabilitation 21 (7): 340-354.*

[58] Dien, E A. and Moyer, A. (2005).*Community health nursing projects: making a difference*. Philadelphia: Lippincott Williams and Wilkins

[59] EFLA/UNESCO (1994*).IFLA/UNESCO public library manifesto 1994*. Available at: http://www.ifa.org/publications/iflaunesco-public-library-manifesto-1994 [Accessed 2016 August 14]

[60] Ekwelem, V.O. (2013). Library services to disabled students in the digital era: challenges for outcome assessment*. Library Philosophy and Practice, 4.*

[61] Epp, M. (2006). Library services to Canadian College Students with print disabilities. *Library Trends 54 (3) 411-429.*

[62] Evans , J. (2003). *The independent living movement in the UK*. Available at:http://www.independent.org/docs6/evans2003html [Accessed 2016 September 10].

[63] Field, M.J. and Jelte, A.M. (2008). Dealing with disability: disabilities will touch nearly everyone in some manner, here's a plan for preparing the nation for this future, but choices should not be put off. *Issues in Science and Technology 24 (2) 85-90.*

[64] Finch, J. and Hayes, C (1994). *Inheritance, death and the concept of the home*. Sociology 28: 417-433.

[65] Gerrish, K and Lacey, A. (2010).*The research process in Nursing*. Oxford: Blackwell Publishing.

[66] Gibbs, G.R. (2007). *Analysing qualitative data, In*: Flick, U. (ed.) The Sage qualitative research kit. Thousand Oaks: Sage.

[67] Given, L.M. (ed) (2008). *The Sage encyclopedia of qualitative research methods Volume 1 and 2*. Thousand Oaks: Sage Publications.

[68] Gravetter, F.J. and Forzano, L.B. (2009).*Research methods for behavioural science*.Wardswaorth, CT: Cengage Learning.

[69] Green , R. (2008). *Research institutions and library services for individuals with disabilities survey*.Unpublished Survey.

[70] Green, R. (1999). *Assistive technologies for individuals with print disabilities. Dissertation,* Virginia Polytechnic Institute and State University.

[71] Green, R. (2008). *Research institutions and library services for individuals with disabilities survey*.Unpublished Survey.

[72] Green, R.A. and Blair, A. (2011).*Keep it simple: a guide to assistive technologies*. Santa Barbara: ABC-CLIO. LLC.

[73] Guder, C. (2010). Equity through access: embedding library services for patrons with disabilities. *Public Services Quarterly 33 (4).*Available at: http://dsq-sds.org/article/view/3871. [Accessed 2016 November 20].

[74] Gupta, S.S. (2008). *Managerial skill: explanations in practical knowledge*. New Delhi: Global India Publishers.

[75] Hasselbring, J.S. and Glaser, C.W. (2012). *Use of computer technology to help students with special needs*. Available at: http://www.futureofchildren.org Accessed 2016 June 4.

[76] Hatch, M.J. and Cunliffe, A.L. (2006*). Organisation theory 2nd edition*. Oxford: Oxford University Press.

[77] Hill, H. (2013). *Disability and accessibility in the library and information science literature: academic analysis*. Library and Information Science Research 35 (9) 137-142.

[78] Hollier, S, E. (2007). *The disability divide: a study into the impact of computing and internet-related technology on people who are blind or vision impaired. GLADNET Collection*. Paper 340. Available at http://digitalcommons.ilr.cornell.edu/gladnetcollect/340 [Accessed 2017 January 7]

[79] Howell, C. and Lazarus, H. (2003). Access and participation for students with disabilities in South African higher education: challenging accepted truths and recognising new possibilities. *Perspectives in Education 21 (3): 58-74.*

[80] Imrie, R. (2004). *Demystifying disability: a review of the international classification of functioning*, Disability and Health Sociology of Health and Illness.

[81] Individuals with Disability Education Act IDEA (2004).

[82] Individuals with Disability Education Improvement Act (IDEA) (2004).*PL 108- 446*.

[83] Jackson, S.L. (2008). *Research methods a modular approach*. Belmont: Wadsworth Thomson.

[84] Jerome, M.K. Neuber, K, Stegall, B. Emenova, A and Bermann, M (2008).*Technology for integration of students with disabilities*, In: Hela,S,Mokhtari, M and Abdulrazak, K (eds.) *the engineering handbook of smart technology for aging disability and independenc*e. New Jersey: John Wiley and Sons.

[85] Kelly, R. (2002). *Technology for individuals who are deaf, hard of hearing, blind and partially blind In: .Lindsey, J. (ed.), Technology and exceptional individuals.3rd edition*. Austin TX: Pro-Ed.

[86] Kiondo, F. (2004). Around the world to: the university of Dares Salaam Library: collection development in the electronic environment. *Library Hi tech News 21(6): 9-24.*

[87] Kirkpatrick, C.H. (2003). *Getting two for the price of one: accessibility and usability*, Computers in Libraries 23 (1): 26-30.

[88] Koestler, F. (2004).*The unseen minority: a social history of blindness in the United States*. New York: AFB Press.

[89] Koganuramath, M.M. and Chowkimath, P.A (2009). *Learning resource centre for the visually impaired students in the universities to foster students inclusive education*. International Conference on Academic Education. Libraries. Delhi. India. Available at: http://cr//du.ac.in/ical/09/papers/index-files/ical104-215-458-2-RV.pdf Accessed 2017 March7.

[90] Kolwasky, M. and Woodruff, J. (2017).*Creating inclusive library environments: a planning guide for serving patrons withdisabilities*.Chicago: American Library Association.

[91] Kothari, C.R. (2004*). Research methodology*. New Delhi: New Age International Publishers.

[92] Koulikourdi, A. (2008*).* Assistive technology in Greek Libraries. *Library Hi Tech 26 (3): 387-397*. Available at http://dx.doi.org/10.1108/0737883081090319 [Accessed on 2016 December 1].

[93] Kranich, N. (2005). *Equality and equity of access: what's the difference?* Available at: http://www.ala.org/offices/oif/iftoolkits/toolkitrelatedlinks/equalityequaly. [Accessed 2016 August 12].

[94] Kravets, M and Wax, I.F (2003).*K and W guide to colleges for students with learning disabilities or attention deficit disorder*. New York: Princeton Review Publishers.

[95] Kuada, J. (2012). *Research methodology*. Frederisberg: Samfundslitteratur

[96] Kumar, R (2011). *Research methodology: a step by step guide for beginners 3rd edition*. Los Angels: Sage.

[97] Kumbier, A. and Starkey, J. (2016).*Access is not problem solving: disability justice and libraries*, In: Berg, S.A. and Heidi, L.M. (eds.) *valuing librarianship: core values in theory and practice*. Illinois: The Board of Trustees, University of Illinois.

[98] Kurzweil, R. (1999).*The age of spiritual machines: when computers exceed human intelligence.* New York: Viking Press.

[99] Lane-Fax, M. (2010). *Digital manifesto for a networked nation.* Available at http://raceonline2012.org/manifesto.[Accessed 2016 November 20].

[100] Lewis, R.B. (1993). *Special education technology: classroom applications.* Pacific Grove, CA: Brooks/Cole.

[101] Lukasiewicz, A. (2007). *Exploring the role of digital academic libraries: changing student needs demand innovative service approach*. Library Review 56 (9): 821-827.

[102] MacCaskill, K and Goulding, A. (2001). English public libraries services and the disability discrimination act. *New Library World 102 (6): 192-206.*

[103] Mack, N, Woodsong, C, MacQueen, K.M., Guest, G. and Namey, E. (2005). *Research methods a data collector's field guide.* North Carolina: Family Health International.

[104] Manhood, K and Richardson, J. (2011). Adoption of web 2.0 in US academic libraries: a survey of ARL library websites. *Program: electronic library and information systems 45 (4):365-375.*

[105] Marshall, and Rossman (2011). *Designing qualitative research 5th edition*. Thousand Oaks, CA: Sage.

[106] Marthers, J. and Marthers, P. (2016). *Follow your interests to find the right college*. Arizona: Wheatmark.

[107] Massis, B.E. (2004).*The practical library trainer*. London: The Haworth Press.

[108] Massof, R.W. (2009).The role of Braille in the literacy of blind and visually impaired children. *Archives of Ophthalmology 127 (11): 1530-1531.*

[109] Mates, B. (2000).*Could Helen Keller use your library? In: adaptive technology for the internet: making electronic resources available to all*. Chicago: American Library Association.

[110] Mates, B. (2010*).* Assistive technologies. *American Libraries 41 (10): 40-42.*

[111] Mates, B.T. and Booth, C. (2012). Information power to all patrons. *Library Technology Reports 48 (7): 7-13.*

[112] Matingwina, T. (2014).*Knowledge attitudes and practices of university students on web 2.0 tools: implications for academic libraries in Zimbabwe*. Zimbabwe Journal of Science and Technology. 9: 59-72. Available at: www.ir.nust.ac.zw/xmlui/bitstream/handle/123456789/.../261-1864-1-PB.pdf Accessed 2016 September 03.

[113] McGough, J and Murray, J.F. (2016*). Know your campus resources.* In: Meeks, L.M. and Neera, R. (eds.) t*he guide to assisting students with disabilities*. New York: Springer Publishing.

[114] Mcnee, C.L. and McCabe, (2008).*Understanding nursing research: reading and using research in evidence based practice 2nd edition. Philadelphia*: Wolters Kluwer Health.

[115] Meyer, C. (1995). *A new method, the story of Louis Braille*. Edwards, WA: The Louis Braille Centre.

[116] Michaels, C.A., Prezant, F.P, Morabito, S.M. and Jackson, K. (2002 a). Assistive and instrumental technology for college students with disabilities: a national snapshot of post -secondary service providers. *Journal of Special Education Technology 17 (1): 5-14.*

[117] Mitchell, M.L. and Jolley, J.M. (2013).*Research design explained*. Wadsworth: Cengage Learning.

[118] Mittermeyer, D. and Quirion, D. (2003*). Information literacy study of first year undergraduates . Quebec Conference of Rectors and Principles of Quebec Universities. Quebec.* Available at: www.crepug.ac.ca/documents/bibl/formation/studies-Aug.pdf Accessed 2016 June 18.

[119] Mullins, J.L., Allen, F.R .and Hafford, A.J.R. (2007). *Top ten assumptions for the future of academic and librarians: a report from ACR. research committee*. College Research Libraries News 68 (4): 240-24. Available at:http://www.ala.orgacri/issues/value/tenassumptions[Accessed 2017 March 6].

[120] Muropa, R. (2010). Academic libraries in transition: some leadership issues- a viewpoint. *Library Management 31 (6): 381-390.*

[121] Neuman, L.W. (2014). *Social research methods qualitative and quantitative approaches 7th edition*. Essex: Pearson Education.

[122] Ngimwa, P. (2005). *An African experience in producing a digital: the African virtual university.* Paper presented to the 4th Pan Commonwealth Forum on open learning.

[123] Ocholla, D. (2009). *Africa: Introduction*, In: Abdullah, I (ed.) *global library and information science: a textbook for students and educators*, The Hague: International Federation of Library Associations (IFLA).

[124] Oliver, M. (1990).*The politics of disablement*. Basingstoke: Macmillan.

[125] Oliver, M. (1996).*Defining impairment and disability: issues at stake, In:* Barnes, C. and Mercer, G. (eds.) *explaining the divide: illness and disability*. Leeds: The Disability Press.

[126] Oliver, M. (2004).*The social model in action: If I had a Hammer In Implementing the Social Model of Disability. Theory and Research edited by C, Barnes and G. Mercer*. Leeds: Disability Press

[127] Prince, M.J. (2009).*Absent citizens: disability politics and policies in Canada*. Toronto: Toronto University Press.

[128] Rich, J. Leyton, A. and Jones, D. (2005).*Push guide to which university*. London: The Push Guides for Students.

[129] Rieser, R. (2008*). Implementing inclusion education: a commonwealth guide to implementing Article 24 of the UN Convention on the Rights of People with Disabilities*. Available at:http://www.worldofinclusion.com/res/internet/commonwealth_ Guide.doc Accessed on 27/01/2017. [Accessed 2016 November 23].

[130] Robitaille, S. (2010).*The illustrated guide to assistive technologies and devices: tools and gadgets for living independently*. New York: Demos Medical Publishing.

[131] Rosenburg, D. (1997). *University libraries in Africa: a review of their current state and future potential*. London: International Africa Institute.

[132] Rowland, C. (2007). *Accommodations for students with diverse needs*. Available at: http://www.pepnet.org Accessed 2017 March 26.

[133] Rowland, W. (2008). Library services for blind people: an African perspective. *IFLA Journal 34 (1) 84-89.*

[134] Saumure, K and Given, L.M. (2004). Digitally enhanced: an examination of the information behaviours of visually impaired post- secondary students. *The Canadian Journal of Information and Library Science 28. (2):25-42.*

[135] Saunders, M. Lewis, P. and Thornhill, A. (2007).*Research methods for business students*.4th edition. Harlow: Prentice Hall Financial Times.

[136] Saunders, M., Lewis, P. and Thornhill, A.(2008). *Research methods for business students 4th edition*. Harlow: Prentice Hall Financial Times.

[137] Schinke, S.P. and Gilchrist, P. (1993).*Ethics in research*. In: R Grinnell (ed.) Social Work, Research and Education. 4th edition. Itasca 11: F.E. Peacock.

[138] Schwanke, T.D., Smith, R. and Edyburn, D.L. (2001). *A3 model diagram developed as accessibility and universal design instructional tool*. RESNA 2001 Annual Conference Proceedings 21, RESNA Press.

[139] Sekaran, U. and Bourgie, R. (2016). *Research methods for business: a skill building approach*. Chichester: John Wiley and Sons Ltd.

[140] Seyama, L.G. (2009). *Information seeking behaviour of students with visual impairment: a case study of the university of KwaZulu Natal*. Pietermaritzburg: University of KwaZulu Natal. Available at: http://www.researchspaceukzn.ac.za Accessed 2016 January 13.

[141] Shava, K. (2008). *How and in what ways can western models of disability inform and promote the empowerment of disabled people and their participation in mainstream Zimbabwean Society?* MA. Dissertation. Leeds: University of Leeds.

[142] Shoko, B. (2016). *The disability that prevents Munashe from using his hands proves no barrier to his education*. Harare: UNICEF Zimbabwe.

[143] Shunmugan, M. (2002). *An explanation of the barriers as expected by visually impaired students studying at the University of Natal (MA) Thesis*. Durban: University of Natal.

[144] Silver, J. and Fass, V.H. (1992).Closed circuit television a low vision aid: development and application. *Ophthalmic Optician 17 (16).*

[145] Smith, V. (2003). *Why being an old is important*. In: Cory, R, Taylor, S, Walker, P and White,J, *Beyond computers and information package on the inclusion of people with disabilities in post -secondary education*. Available at: http://thechp.syr.edu/BCCC-PACKAGE.HTML Accessed on 2016 July 9.

[146] Soorenian, A. (2008). Technological aids: key barriers and experiences of disabled international students, equality, diversity and inclusion: *An International Journal 33 (1): 42-43*. Available at: http://dx.doi.org/10.1108/EDI-022012-009. [Accessed 2016 December 23]

[147] Statistics Canada (2008).*Participation and activity limitation survey 2006: Labour force experience of people with disabilities in Canada.* Otawa: Statistics Canada. Available at http://www.stacan.gc.ca/pub/89_628-x/89-628-2008007-engpdf. [Accessed 2016 October 5]

[148] Stewart, C. (2007). *Issues for South African academic libraries in the post-apartheid era: a review of selected international world libraries* 17 (2) Available at:http://www.worklib.org/vol7no2/stewart-v17n2.shtml. [Accessed 2017 January 17].

[149] Sunrich, M and Green, R. (2006). Assistive technology for library patrons with visual disabilities, Journal of Access Services 4 (1/2): 29-40.

[150] Swain, J. French, S. and Cameron, C. (2003*). Controversial issues in disabling society*. Buckingham: OU Press.

[151] Swain, J. French, S. and Cameron, C. (2003).*Controversial issues in disabling society*. Buckingham: OU Press.

[152] Taylor, B. Sinha, G. and Ghoshal, T. (2006*).Research methodology*. New Delhi: Prentice- Hall of India.

[153] Terzi, L. (2008). *Justice and equity in education: a capability perspective on disability and special needs.* New York: Continuum International.

[154] Thanuskodi, S. (2013).*Challenges of academic library management in developing countries.*Mumbai: Information Science Series.

[155] The Association of Research Libraries (1991).*Library for persons with disabilities.* Issue 176.Washington DC: Association of Research Libraries.

[156] The European Commission (2003).*Access to assistive technology in the European Union*, Directorate General for Employment and Social Affairs Unit E4.

[157] The world Health Organisation (WHO) (2004).*A glossary of terms for community health care and services for older persons*. Aging and Health Technical Report 5. Kobe City, Japan: WHO.

[158] Trief, E. and Feeney, R. (2005).*College bound: a guide for students with visual impairments*. New York: AFB Press.

[159] UPIAS (1976).*Fundamental principles of disability*. London: Union of the Physically Impaired Against Segregation.

[160] Velhmas, S. and Shakespear, T. (2014). Disability harm and the origins of limited opportunities. *Cambridge Quarterly of Healthcare Ethics 23 (1): 41-47.*

[161] Wallace, A (2007*). Out of the darkness: library services for the blind and print disabled in Trinidad and Tobago.* In: Peltier-Davis, C. and Renwick, S. *Caribbean libraries in the 21st century: changes, challenges and choices.* New Jersey: Information Today Inc.

[162] Watling, S. (2011*).* Digital exclusion: coming out from behind closed doors. *Disability and Society. 28 (4): 491-495.*

[163] Watson, G.R. (2001). *Low vision in the geriatric population: rehabilitation and management.* Journal of the American Geriatric Society 49 (3): 317-330.

[164] Weaver, M. (2013).*Managing complex change collaborating*. In:Melling, MandWeaver, M (eds.) *collaborating in libraries and learning environment*. London: Facet Publishing.

[165] Allmark, P. (202). *The ethics of research with children*. Nurse Research. 10: 7-19.

[166] Weaver, M. (2013).*Managing complex change collaboratively*, In: Melling, M. and Weaver, M. (eds.) *collaboration in libraries and learning environments.* London: Facet Publishing.

[167] Wendell, S (2013). *Unhealthy disabled: treating chronic illness as disability*. In Davis, L.J. (ed.) The disability Reader. New York: Taylor Francis.

[168] Willsher, B. l. (2009).*The lived experience of physically disabled adults in college, Proquest Dissertations and Thesis*. Available at:http://The%20lived%20experience%20of%20physically%20disabled%20adults%incollege%20udini.html [Accessed 2017 April 20].

[169] Yin, R. K. (2011).*Qualitative research from start to finish*. New York: The Guilford Press.