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The Exclusion of Persons with Visual Impairment in Nigerian Academic Libraries' Websites

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Introduction

University library websites constitute important access points to online resources for library users including persons with disabilities. This is evidenced by the United Nations' adoption of the Convention on the Rights of Persons with Disabilities (CRPD), which guarantees that people with disabilities have the same access and opportunities as everyone else to participate in all areas of public life, including jobs, schools, transportation, and all public and private settings open to accommodate the general public (United Nations, 2006). Within the library and information science (LIS) profession, equal access has been emphasized as one of the foundational principles of intellectual freedom and participation for members of the society (American Library Association, 2004; International Federation of Library Associations and Institutions, 2015; Yoon, Dols, Hulscher & Newberry, 2016). Moreover, digital formats have become an acceptable standard for information exchange, which reinforces the equitable provision of online information services to all types of library users. This paper therefore examines the extent of inclusion or exclusion of persons with visual impairments in the websites of leading university libraries in Nigeria. The implications of the extent of inclusion or exclusion for the issue of equity of library services are also examined in this paper. Moreover, this study evaluates the resource richness or otherwise of the websites of leading university libraries in Nigeria. Then, the resources and services availability are discussed in relative to the need for inclusiveness of patrons with visual impairment in packaging information services.

Statement of the Problem

Many persons with visual impairment have been pursuing postsecondary studies, succeeding in careers, and participating in community life. This can be adduced to several factors such as technological advancements, legislation, and changing attitudes of persons with disabilities. Technology plays a role in the level of access to information among persons with disabilities. Also, the websites of university libraries could provide necessary support for library users including persons with visual impairment. However, some websites of the university libraries do not have relevant resources or services for people with visual impairment. In this case, many persons with visual impairment have been deprived of access to electronic resources. Consistent with this situation, several studies have shown that the rapid growth of information technology has had a marginalizing effect on many groups, including those defined by age, socioeconomic status, literacy, language, culture, geography, and disability (Jaeger et al., 2011; Lazar & Jaeger, 2011; and Yoon et al. 2016).

A close observation of different categories of users in the university libraries in Nigeria shows that persons with visual impairment experience marginalization as information resources in the university libraries are designed to suit a generic population. Studies have associated the marginalization of persons with visual impairment in the university libraries with some challenges such as inadequate budget, poor information and telecommunication infrastructure, limited access to high speed internet, low take-off of open access repositories and digital libraries, non-availability of adaptive technology and specialized software packages (Adetoro, 2011; Lucky and Achebe, 2013; Zaid, 2017). One may also observe that the marginalization is a fall-out of some cultural misconceptions that visually impaired are incapable of any intellectual activities.

A typical example of marginalization of persons with visual impairment in the university libraries is the barriers this category of users experience in their efforts to access electronic information. Some studies reveal that typical library websites are not truly welcoming and accessible for persons with various disabilities as Web developers do not adequately factored their information needs into the design of websites and other Internet-based information services (Lazar & Jaeger, 2011; Lewis, 2013; Southwell & Slater, 2012; Yoon,, Dols, Hulscher &Newberry, 2016).

It is noteworthy that provision of equitable access to information in whatever format is critical to creating an inclusive environment in the university libraries. As library resources are increasingly migrating to online platform, library professionals need to address the aforementioned problem more

assertively or fail in their mission to provide equal access to information to all library users including persons with visual impairment.

Literature Review

It is not easy to find a standard definition of disability because of the varied nature of disabilities. Attempts have, however, been made to define disability and these abound in the literature. For example, Velleman, 1990 cited in Ochoggia, 2003) defines disability as limitation of function that results directly from an impairment at the level of specific organ or body system, while World Health Organization (2011) define disability as an inevitable human phenomenon that limits equitable access as a result of activity limitation and participation restriction in society. Like the definition of 'disability' there is hardly any unanimity in stating types of disability. However, Irvall and Nielsen (2005) classified and defined various disabilities namely: Physical disability, Visual impairment, Deaf and hearing impairment, Reading difficulties, Cognitively disabled. This study deals with visual impairment rather than discussing slight variations with and within one or more disabilities at a time.

For many people with visual impairment, lack of access to information is the biggest barrier to fully and effectively participate in all aspects of society (IFLA, 2012). University libraries which are part of institutional facilities within the context of the institutional mission is expected to support the institution's curriculum, and to meet the information and research needs of all library users in the university community (ACRL research planning and review committee, 2016). Experiences of library patron while using the library have changed over the years for a variety of reasons, including: increasing use of electronic technologies and e-learning materials in all aspects of postsecondary teaching and learning, increasing presence of adaptive technologists, the maturing of adaptive hardware and software, and the increasing compatibility of such software with general use information and computer communication technologies, and increasing popularity of universal instructional design (Fichten et al. 2009). However, studies have shown that library managers have neglected the needs of persons with visual impairment (Ochoggia, 2003; Adetoro, 2011, Eskay & Chima, 2013; Tulip, 2013. As more information is delivered using computer and network technologies, an ideal university library is expected to provide equal access to information resources to each individual, regardless of the degree of ability or disability.

Title II of the Americans with Disabilities Act (ADA), passed in 1990, provides general guidelines on the legal protection and equal rights of persons with disabilities and requires the equal treatment of persons with disabilities by public agencies, including public and academic libraries (Vandenbark, 2010). Section 508 of the Rehabilitation Act of 1973, as amended in 2001, more specifically requires that US federal agencies make their information and services, including online information, available to people with disabilities so that they have access to the same information as those without disabilities (Thatcher et al., 2006). In addition, Section 504 extends this provision to all entities funded by federal money, which includes a number of public libraries and their websites (Thatcher et al., 2006). In compliance with the guidelines, university libraries in the United States for over a decade, are using web environment to provide high quality information for persons with visual impairment mostly in digital format, and their most important role lies in numerous and enriched library services via their websites (ADA, 2005).

At present, there is no federal provision requiring accessibility for all websites. Providenti and Zai (2007) investigated whether the legal mandate for website accessibility could apply to academic libraries, and concluded that there is not a clear mandate, although the potential exists for indirect enforcement through Section 508. However, a recent decision by the Department of Justice may result

in the introduction of new rules in Title III of the ADA that would extend the website accessibility requirements to all “websites of public accommodations,” whether federally funded or not (Federal Register, 2014). These new rules, which are expected to be introduced in 2018 (Department of Justice, 2015), would mandate the accessibility of public accommodations websites such as e-commerce, tax preparation sites, schools, and public libraries (Vu & Launey, 2015).

The Web is fundamentally designed to work for all people, whatever their language, culture, location, or physical or mental ability. Information and computer communication technology, including the internet has had a major impact on how persons with disabilities find and access information as a result of the rising popularity of adaptive technology. It has enabled the virtual environment to usher in hitherto unimagined learning possibilities, thereby redefining the concept of the environment which has invariably thrown up the challenge of inclusiveness of access to information (Fichten, Asuncion, Barile, Ferraro, Wolforth, 2009). This power have created a new environment to educational institutions and individuals, enabling them to webcast any information using multimedia tools via their websites.

The website has globally become a primary channel of communication for information delivery to library users , including persons with visual impairment (Yoon *et al.*,2016). In the digital era, websites are the likely first points of call for the potential library users. It is the most likely means by which library users would make initial contact with a university library in their efforts to find information about any area of interest. Websites offers users opportunity to browse and sieve resources which promise to be useful to meet their information needs (Zickuhr, Rainie, Purcell, 2013). It is the most likely means by which students would make contact with university libraries (Kvavik, 2005; Zickuhr, Rainie, Purcell, 2013). It is mostly used to search for library’s own catalogue, catalogues of other libraries, online services the library provide, subscribed databases, open source articles, personal web pages archived, e-mail messages, selected websites or even the internet as a whole. With technology advancement, such website content could be accessed from a range of computer based and internet enabled devices of various sizes, including desktop computers, laptops, and mobile technologies such as tablets and cell phones most of which were developed with accessibility built in.

However, exclusion of persons with visual impairment from virtual environment has become more pronounced in the digital era unlike the situation in the pre-electronic era when the university library environment was described in terms of its location, quality of collections, services, operating hours and attitude of personnel in the library. Some studies reveal that typical library websites are not truly welcoming and accessible for persons with various disabilities as Web developers do not adequately factored their information needs into the design of websites and other Internet-based information services (Yoon et al. 2016). Drawing attention to this point, Preeti & Kiran, 2012; Southwell and Slater, 2012 states that visually impaired patrons using assistive technologies encounter many challenges in accessing digital materials on library websites. Southwell and Slater (2012) examined the accessibility of U.S. academic library digital collections and found that only 42% were readable using a screen reader, while 58% were not. The primary reason for the exclusion was the lack of a transcript or otherwise digitally readable text associated with the digitized materials. Southwell and Slater argue that institutional policies and mandates are necessary to achieve consistent accessibility for digital library resources.

In its support of information inclusiveness, the United Nations’ Convention on the Rights of People with Disabilities (CRDP) enjoins States that are party to the convention to promote the rights of those with disabilities (United Nations, 2006). Under Article 24 of the convention, ratifying countries are charged with ensuring an inclusive environment at all levels. To actualize article 24, ratifying countries

are required to domesticate the convention and institute comprehensive legislation prohibiting discrimination against individuals with disabilities by ensuring that persons with any form of disabilities have the same rights and opportunities as everyone else to participate in all areas of life. In compliance with the UN convention, university libraries in the United States and the United Kingdom for over a decade, are using web environment to provide high quality information for persons with visual impairment mostly in digital format, and their most important role lies in numerous and enriched library services, including resources for students with disability to facilitate academic and career success (Hernon & Calvert, 2006; Moon, Todd, Morton & Ivey, 2012; Hewett, Douglas, McLinden, & Keil, 2017). The authors explained how websites of most universities in the developed countries specifically have accessibility and service statements that identify relevant resources and services or confirm their commitment to serving persons with disabilities.

In most Nigerian universities, the creation of website has brought about: web enhanced teaching and learning which has improved patron's participation in their own learning space, improved developments in the methods of accessibility to information resources and services, and also opened up more opportunities for libraries to digitize, upload, manage and upgrade library services. For instance, Ibinaiye, 2012; Gbaje & Kotso, 2014) listed information facilities that provided virtual access to library information products and services in Nigeria, including online public access catalogs, institutional repositories (IR), e-books, e-journals, indexes to literature, full-text journal articles, electronic reserve services and links to other electronic resources. There is no doubt that the websites are providing great value to library users, but it will be interesting to know the extent to which the electronic library services are inclusive to the underrepresented user group (in this case, persons with visual impairments) who were disadvantaged in terms of information accessibility (IFLA, 2012).

The International Federation of Library Associations and Institutions (IFLA) recognizes that persons with visual impairment are a large and neglected minority in the community and are severely underrepresented in the library environment (IFLA, 2015). In order to provide equal opportunities for persons with visual impairment to access library buildings, as well as resources and services, IFLA's Standing Committee of Libraries Serving Disadvantaged Persons (LSDP) prepared and published a checklist of conditions that should prevail to ensure a welcoming environment for persons with visual impairment (Irvall & Nielsen, 2005).

Using the checklist as a yardstick, (Irvall & Nielsen (2005) pointed out the website and the catalogue should be fully accessible to visual impairment. This can be achieved by using a simple structure, clear and adaptable font, spacing and colours and a read aloud button. The library search engine should be based on pictograms; it is helpful if the results list shows the front page of the materials and a short, easy-to-read description of the content.

Other options include:

- Menus for persons with visual impairment
- Different font settings
- Links, widgets and apps aimed at the target group
- Ability to search for easy-to-read materials
- Speech synthesizer for searching the catalogue
- Videos instead of text to demonstrate library services

- Names and pictures of staff members specializing in persons with disabilities

The checklist which serves as a guide for all types of libraries (academic, public, school and special) that may want to provide inclusive services for patrons with visual impairment is in line with the Web Accessibility Initiative (WAI) of the World Wide Web Consortium (W3C) which is the leading organization establishing standards and requirements for accessible Web development.

Methods of Data Collection

The data used for this article were derived from the literature and websites of the leading university libraries in Nigeria. The information on the websites was extracted to assess the extent to which the selected university libraries provide websites for library users including persons with visual impairment. The websites of the university libraries were scrutinized because it has been shown that web surfing is a common trend among users in the university library (Ibinnaiye, 2012). The libraries of the first ten universities in the webometric ranking of universities in Nigeria were selected for data collection. The IFLA library disability checklist serves as the context for determining items for collection and analysis of data. The study was conducted in March and April 2017.

To review access to information about available services with regards to disabilities, each library's website was viewed from the perspective of a first attempt to locate relevant information. The researchers determined this perspective to be a valid point of entry since libraries are community's 'portal' to information, knowledge and leisure, and searching for information on the internet is the most likely means by which today's user would make initial contact or find information to meet specific needs (IFLA, 2012). The review began by searching each library website while using the IFLA checklist as a framework of search. Researchers reviewed the websites thrice at various times to establish reliability then independently formed emergent theme. In a final step to establish the level of validity within the information gathered, researchers focused on the following: general features of the website, collections, services, and facilities. The researchers analyzed each theme with a focus on the extent of inclusion or exclusion of persons with visual impairment. Data obtained from the websites of the university libraries were subjected to content analysis.

Table 1: The Websites of the Leading University Libraries in Nigeria

S/ No	University Website	Location	University Library Website
1	University of Ibadan http://www.ui.edu.ng/	Ibadan	http://library.ui.edu.ng/ .
2	University of Lagos https://new.unilag.edu.ng/	Lagos	http://library.unilag.edu.ng/ .
3	Obafemi Awolowo University http://www.oauife.edu.ng/ .	Ile-Ife	http://www.oauife.edu.ng/oau-library/
4	Ahmadu Bello University https://abu.edu.ng/	Zaria	https://library.abu.edu.ng/ .
5	University of Ilorin https://www.unilorin.edu.ng/ /	Ilorin	http://library.unilorin.edu.ng/ .
6	Covenant University http://covenantuniversity.edu.ng/	Ota	http://clrmmain.covenantuniversity.edu.ng/ .

7	University of Nigeria http://www.unn.edu.ng/	Nsukka	http://library.unn.edu.ng/ .
8	University of Benin http://www.uniben.edu/	Ugbowo	http://library.uniben.edu/ .
9	University of Abuja https://www.uniabuja.edu.ng/	Abuja	https://www.uniabuja.edu.ng/library/ .
10	University of Port Harcourt http://www.uniport.edu.ng/	Port Harcourt	http://www.library.uniport.edu.ng/ .

Source: UniRank, 2017.

Results of Findings

The fundamental purpose of the IFLA checklist is integration of persons with disabilities into mainstream library services. Often, the first introduction of how a library program provides equal opportunities to all abilities is through its website information. This perspective was also shared by Burgstahler(2012) who conducted a study on making electronic resources accessible. Library mission and vision was available on all the sampled university library websites. However, none of the libraries studied have a mission statement specific to persons with disabilities on their website. To ensure inclusiveness, Herson & Calvert (2006) and Butgstahler (2012) opined that the more prominent accessibility information is to find on a library website, the more inclusiveness is communicated. Lack of]absence of accessibility information about disability on the library websites clearly confirm university libraries' commitment to serving persons with visual impairment.

Where accessibility information was located on a website, parameter like how specific that information was, how easy it was to find and navigate, as well as cross-posting of information or links between the library's services websites emerged in the first theme of the findings. Majority of the university library websites has no webpage on disability services. The researchers found that only two universities had cross connections between library and disability services. The link was relatively easy to locate at the second tier level located in a lighter font at the very bottom of the page as part of the site summary. However, the link to disability services in one out of the two universities is currently inactive.

The non-availability of a webpage on disability on the library website makes it very difficult for patrons with visual impairment to locate information at the sites quickly and easily. The absence of a link to disability webpage was further verified by inquiries to these libraries' Ask-A-Librarian chat menu or Frequently Asked Questions (FAQ) and Help menu for any information which produces no option on disability. Only 3 of the sample library website had a webpage for frequently asked questions (FAQs) and help page respectively. This result is not different from the result reported by Gbaje(2014). The implication is that most persons with visual impairment will be unable to get immediate assistance or answer to meet their query. This result is not different from the result reported by Gbaje(2007).

Theme two related to the prevalence of information about accessibility to facilities. While four of the libraries explain how software, hardware and other equipment could be accessed from their websites, others provided just a listing of the software and hardware. Since majority of the libraries did not have disability services web page, none explain how some of software and hardware and other equipment could meet the information needs of persons with visual impairment. Burgstahler (2012) and Hall (2015) opined that accessibility refers to not only architecture but also to facilities available to support library services. The authors recommend that libraries should work to integrate assistive technology such as software and hardware, including peripherals, devices, and equipment as part of facilities to

meet the broad range of disabilities. The implication of this finding is that while University Librarians in Nigerian universities may be seen to be ready to integrate the information needs of persons with visual impairment into mainstream library services, accessibility to facilities to support library services must be high priorities.

Third theme which is related to collection shows that the websites were not inclusive in nature. Based on the checklist, collection should include materials that represent the diversity of its readers. For six of the libraries whose Online Public Access Catalog (OPAC) is active and running, none use a simple structure, clear and adaptable font, spacing and colours and a read aloud button. None of the catalogue include information about titles accessible in alternative formats or online audio files for download. Only one of the libraries have a video link to a Youtube channel on the website. However, the video content did not mention specific information or services for persons with visual impairment. There is no doubt that patrons with visual impairment will benefit when the library's collection includes materials featuring protagonists with a disability, using people-first language, containing accurate information, and including accurate and meaningful descriptions and illustrations reflecting patrons with special needs (Wopperer 2011). Making available materials that include services to persons with visual impairment, and other materials in a variety of accessible formats engenders a welcoming atmosphere, boosts the confidence of persons with visual impairment, and cultivates a culture of inclusion (Socol 2010; Wopperer 2011).

The fourth and final theme was a direct reflection of how well the website communicate and provide services for persons with visual impairment. This theme related to the provision of support services specifically for persons with visual impairment. On average it took one to two mouse clicks to access information on general services from the library's homepages. Some of the general services listed include: circulation, reference and reference assistance, retrieval of materials, photocopy, services at faculty/branch libraries, interlibrary loan, and user instruction designed for the generic population. Only one of the libraries mentioned core services specifically for persons with visual impairment.

Core services refer to a variety of preferred formats within the collection that support physical and intellectual access to information resources and various modalities of instruction (Adams 2009; Ennis-Cole and Smith 2011; Farmer 2009). Based on the checklist, some of these preferred formats for persons with visual impairment are audiobooks, talking books, graphic novels, MP3 files and other digital media, Playaways, large print, DVDs, closed-captioned, podcasts, and Braille materials (Southwell, 2012; IFLA, 2015). Other services to persons with visual impairment should also include: extended loan periods, overdue fines waiver, extended reserve periods, library cards for proxies, books by mail, reference services by fax or email, hall of residence or office delivery service, remote access to the OPAC, remote access to electronic library resources (Burdeleigh, 2012). While none of the libraries reviewed listed such services on the websites, some authors specifically states how university libraries support persons with disabilities by providing services such as: accessible facilities and spacious shelves; computers for use of students with disabilities; Zoom text software for visually impaired students; Jaws Assistive technology programs for the blind; online journals and eBooks databases; a scanner that scans and enlarges study material and books enabling the material to be captured on the computer; braille books; enlargement of study material; and audio books (Phukubje & Ngoepe, 2016).

Only four of the libraries provided information about faculty libraries but none specifically mention special assistance faculty libraries could provide for persons with visual impairment. For enquiries on personnel information, including names and pictures of staff members specializing in persons with disabilities, findings shows that all the libraries provided general contact information. Majority of the libraries provided names, email addresses and telephone numbers of some of their staff but none

provide contact information or specific description of what library personnel could do for persons with visual impairment. This might be as a result of the perception that most of their resources and services are for generic population, and no consideration is given to protective patrons with visual impairment.

Conclusion

In a review of libraries of 10 major universities known as the first ten universities in Nigeria, many could not demonstrate inclusive environment for persons with visual via their website. Findings indicate that 9 out of the 10 libraries have active library website. Out of the 9, only 2 have direct link while 7 did not have webpage for people with disabilities. Information about resources and services on the library homepages differ widely in length and coverage. None of the libraries provide core services for persons with visual impairment. This finding reveals that work needs to be done to meet the full intent of integration of persons with visual impairment into mainstream library services.

The implications of the findings of this study to LIS practice is one means of promoting equity of library services. While the 10 libraries websites reviewed certainly do not represent all university libraries in Nigeria, using these libraries as a sample of major universities and the environment they provide for persons with visual impairment who may desire to access electronic library resources and services was extremely revealing. From this findings, it is obvious that none of the libraries deploy IFLA guideline to support persons with visual impairment. Also, the ratification of the United Nations Convention for Persons with Disabilities by Federal Government of Nigeria has not produced feasible results for persons with visual impairment in Nigerian universities. Therefore, many legal and compliance issues involving persons with disabilities may arise from library's failure to provide integrated resources and alternative services required by this cohort of users.

While some of the libraries in this study were found to be doing a good job of presenting a welcoming web environment, it is clear all still have lot of work yet to accomplish to create inclusive environment. In most cases, a one-size-fits-all approach may not adequately set the ball rolling. Therefore, a more specific approach can be in identifying, expanding and promoting the existing resources and services, and providing direct and core services for persons with visual impairment.

Recommendations

How can university libraries provide the inclusive online services needed to attract, encourage and include persons with visual impairment to access and use their resources and services? The first step is to have an organizational commitment to accessibility. That commitment should promote equal opportunity, integration, independence, respect, and dignity for all library users. One of the steps of planning for accessibility is to adopt an accessibility statement that reflects that the library has a commitment to accessibility. Devoting resources needed to achieve accessibility must be part of the strategy of achieving the overall goals including both staff and financial resources. Therefore, funding should be available to purchase assistive technology to enable access for persons with disabilities use library services, and the availability of such technology should be advertised and promoted on library website.

The next step is to create a webpage on disability services, and incorporate accessibility statement on the library homepage and in all library publications, and campus materials. The accessibility information links should be visible on the main library website so they are easy to find. Remember that the farther one has to navigate within a website to obtain information on accessibility the less the perception of the commitment.

In a university setting, persons with visual impairment may wish to approach information gathering

first from the Office of Student Affairs before locating the library. Therefore, library management should establish a connection with the Office of Students Affairs and vice versa with each unit having a link on its respective website for each other's programs, resources and services.

University management should designate at least two or more staff within to be the accessibility coordinator for the library. Information about what and how resources and services can be provided, and contact information on how to obtain such assistance should be included on the website and in all library publications.

Adequate training for such staff in understanding the needs of and interacting with people with visual impairment is critical to overcoming attitudinal barriers and facilitating needed resources and services. The accessibility coordinator (s) should be trained in working with persons with visual impairment, and be able to coordinate and provide training for other library staff. The training should not be a one stop attempt but continuous to keep pace with the technology.

Websites should contain a freshness date and be reviewed on a frequent basis. Dead links are frustrating and does not portray a welcoming environment.

Integration should be viewed as part of a spectrum of opportunities including full participation with or without modifications to specific and separate facilities and services. The more specific the information regarding resources and services available for persons with visual impairment on library websites, the more inviting and inclusive the library will be perceived. Although creating an inclusive environment is not a legal requirement, but it is an important characteristic exhibiting best practices of integration, and means of promoting equity of library services. Therefore Nigerian Library Association should take a clue from the International Federation of Library Associations and Institutions (IFLA), and other library associations across the globe about how best to meet opportunities and challenges for creating inclusive environment and widening access to persons with visual impairment in Nigerian libraries.

Limitations

The situation of the selected libraries' websites may not be representative after this review as library websites undergo frequent updates or changes causing results to vary somewhat. However, this review and comparison adds to the literature on library websites and equitable access to information for persons with visual impairment. It offers discussion points and some suggestions for web developers and librarians which may lead to improvements in library websites and service delivery for persons with visual impairment.

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