Gateway Information Journal
G I J

ISSN: 1119–6041

Journal homepage: https://www.gatewayinfojournal.org/

Vol. 20(1) June, 2019

Access to Information Resource and Opportunities for Social Inclusiveness: Perceptions of Visually Impaired Students of Higher Education Institutions in Lagos, Nigeria

Olatokunbo Christopher Okiki
University Library
University of Lagos, Akoka, Lagos
cokiki@unilag.edu.ng

&

Patrick Emeka Okonj
Research and Innovation Office
University of Lagos, Akoka, Lagos
opatrick@unilag.edu.ng

ABSTRACT

The challenges of access to educational resources (including print information resource and learning materials) and the problems of social inclusion facing visually impaired students are well documented. The aim of this study is to explore the scope of such challenges among visually impaired students from their perspectives in order to grasp an in-depth understanding of how visually impaired students experience education. This study employed a qualitative research approach; interviewing 20 visually impaired students who attended higher education institutions and were present at a workshop organised for blind and partially sighted individuals. The students were aged between 19 and 45. Their visual impairment conditions ranged from partial sight to total blindness. They were interviewed using unstructured open-ended questions exploring their perceptions of information access as well as inclusion. The interviews were transcribed verbatim and a thematic analysis conducted using Nvivo (version 12). The four main themes that emerged included: access to lecture notes, access to published books and print materials, having a sense of inclusion, and possible solutions. Results showed that the participants generally felt that strategies and interventions for access to information have not been carefully considered. A negative cycle of exclusion was also identified following from discrepancies with access to opportunities appertaining to them and to their sighted peers. Recommendations to tackle the negative feelings of social exclusion as well as challenges to equal access to information and educational resources are discussed.

Keywords: Access, information resource, social inclusion, social exclusion, visually impaired

INTRODUCTION

There are 285 million people with visual impairment in the world, and over 70% of this population live in developing countries. Looking at the global distribution of people with vision impairment, more than 48 million are from Sub-Saharan Africa and, with a total population of over 180 million people; over 2.5 million of this population are Nigerians. In Nigeria, the demand for university education is on the increase (Saint, Hartnett, & Strassner, 2003) and students with vision impairment are not left out as many of them are becoming increasingly enrolled in academic programs offered in the universities (Aluede, Idogho, & Imonikhe, 2012). Adetoro (2011) states that the population of persons with visual impairment in Nigeria is estimated at 3 million and that very few of these have received formal education and are capable of reading and writing in Braille. In recent years, there has been increase in enrolment of Visually Impaired Students (VIS) into tertiary institutions in Nigeria. In University of Lagos for instance, the enrolment intake of VIS students has been on ascendancy. In 2016/2017 session, the total intake was thirty (30) and rose to fifty (50) students in 2017/2018 session across faculties. Similarly, in other Nigerian universities, there has been a steady growth in the intake of VIS as many universities are embracing inclusivity. The support of teaching and learning by Higher Education Institutions (HEIs) requires that access to information is created for all (Ifidon and Ifidon, 2007).

While accessibility to information resources and services are key issues in HEIs globally, academic institutions, however, vary with regard to the extent to which they can cater for or accommodate the needs of persons with disabilities. Many institutions in western economies are taking a joined-up approach to promoting equal opportunities for people with disabilities in the context of institutional equality and diversity strategy. Proactive measures are increasingly taken to support the rights of disabled people in gaining access to learning opportunities and employment, and to engage in active citizenship (Hannon, 2005). The increasing access to university education in Nigeria is, however, presenting challenges and suggestions for the future. An in-depth understanding of issues surrounding access to information for students with vision impairment in Nigeria will assist Higher Education Institutions (HEIs) and information providers with knowledge of what currently exists and enable stakeholders come to terms with bridging the gaps between what exists and expectations (or international best practices). Libraries have a key role to play in fostering an "inclusive academic/learning environment", serving all kinds of users including users with visual impairment, as reading is a visual task. According to Adetoro (2010) information materials can only become usable to persons with visual impairment when they are transcribed into alternative formats. In his view, the transcription and provision of alternative formats in Nigeria by libraries has not been based on users' reading interest and information needs. As citadels of learning, the tenets and precepts of university education demands that all students, including the visually impaired, should have access to information, resources for learning and knowledge sharing. Adetoro (2010) further recommended that transcription and provision of information materials for the visually impaired through libraries should be based on knowledge of their reading interest and information needs.

Equitable access to relevant information resources and services for the visually impaired persons could potentially promote efforts targeted at developing human resources and stimulating sustainable self-reliance. Access to education and information for individuals with disabilities is a most invaluable avenue for national development (Bloom et al., 2006). Arguably, exclusion from access to information marks the beginning of a lifetime of exclusion from mainstream society as equitable access to educative information is essential for social inclusion (Ajuwon, 2008). According to the Freedom of Information Act, access to information is a fundamental element of the right to freedom of expression as provided under Section 39 of the Constitution of the Federal Republic of Nigeria. This right is an important aspect of the universal guarantee of freedom of information which includes the right to seek and to receive as well as to impart information. Furthermore, Article 19 of the Universal Declaration of Human Rights and other international human rights treaties, such as the International Covenant on Civil and Political Rights (ICCPR) and the African Charter on Human and Peoples' Rights hold that everyone shall have the right to seek, receive and impart information and ideas of all kinds. In line with increasing enrolment of students with vision impairment, issues of access to library and information resources as well as services are emerging concerns.

The extent of accessibility to information for visually impaired students remains underexplored. There is scarcity of information on the extent of access to information among visually impaired students in Nigerian universities, advances made to improve access (if any) and the kind of access that they really desire. In view of these gaps, it is important to explore avenues for inclusive access to information in public domain for this group. Questions abound about the challenges of access to information among individuals with vision impairment and how their access to information can be improved especially in the face of competing priorities in Nigerian tertiary institutions. To what extent are Information Service Providers making efforts to meet the accessibility needs of visually impaired persons and what are the barriers to the use of new technologies in accessing information? This study aims to explore accessibility challenges faced by visually impaired participants as well as their perceived sense of inclusion within HEIs settings and making recommendations for the design of an inclusive educational system.

STATEMENT OF THE PROBLEM

Over the years, research has revealed that only 10 per cent of the 285 million visually impaired people, worldwide, are likely to have access to education notwithstanding Marrakesh Treaty and the Accessible Books Consortium effort in ensuring that the visually challenged persons were given equal access/opportunities as their sighted counterparts yet the statistics proves otherwise. It should be noted that, the Word Blind Union put it succinctly that over 90 per cent of visually impaired persons are not able to access education vis-vis information recourses, and this is more prevalent in developing countries. Information resources and service delivery to the visually impaired by information professionals and libraries are set up to provide access and service to all clientele. Despite spirited effort made by institutions of higher learning in providing information to all yet social inclusiveness and

accessibility remains a challenge to visually impaired students as expressed in literature. Therefore, it is very imperative that institutions of higher learning especially library should provide equal access to its information resources and services with visual impairment. It is against this background that this research aims to explore accessibility challenges faced by visually impaired participants as well as their perceived sense of inclusion within HEIs settings and also, to make recommendations for the design of inclusive systems.

REVIEW OF LITERATURE

Several studies have been conducted to explore the general public's view about inclusivity with regards to information provision and service delivery all users. A research conducted by Babalola & Haliso (2011) on the role of academic library providing information services to the Visually Impaired established that library services to persons with visual impairment in libraries of the developed countries such as Britain, America, Canada, Australia, Finland and Netherlands are well established and that the services rendered have been upgraded in both volumes and mode of delivery. This assertion was corroborated by Hill (2013) in a content analysis carried out on LIS literature, the analysis revealed major issues and trends with regards to information accessibility and disability in the LIS literature throughout a 10-year period, 2000–2010. The finding established the strongest theme in the literature is accessibility to relevant information as it relates to web, database, and software while delivery services to the people with visual disabilities. Similarly, Bhardwaj and Kumar (2017) carried out a research to understand the perception of visually impaired undergraduate students about the digital environment in their institutions and with the aim of developing an online information system suiting their information needs. The study found that 36 percent of visually impaired students access online electronic resources daily. The study revealed that majority of the respondents were constrained with inaccessibility to the college notice board, lack of accessibility to existing facilities and resources, nonexistence of assistive technology facilities and unavailability of readers and writers. While a total, 51.6 percent of visually impaired students (VI) showed that they have difficulty in accessing their institution website because they were not users friendly designed in accordance with the accessibility standards developed for visually impaired students.

The above submission revealed disparity in terms of information provision and service delivery to all category of users. UNESCO (2009) advocated that inclusion as a developmental approach should address learning needs of all children, youths and adults with a specific focus on those who are vulnerable to marginalization and exclusion of which this study centered on. Why supporting the UNESCO position, Atinmo (2012) affirmed that the notion of inclusion is essential in the provision of equal access to information to persons with visual impairment due to the dynamism of the present day information environment which is characterized by digital evolution. The crux of the whole debate is the need for information and service to be accessible and relevant to the entire gamut of user regardless of demographic status. There are several challenges in extant literature that impede access to information by students living with visual impairments. However, exclusion of persons with visual impairment from gaining access to information resources is more pronounced in the

digital environment as it were before the advent of electronic information and services delivery in the university library environment (Yoon et al. 2016).

Zaid (2017) in her paper on information access to the visually impaired students revealed that typical library websites are not friendly and accessible for persons with various disabilities as Web developers do not factored their information needs when designing websites and other Internet-based information services. The finding of Zaid aligned with earlier research carried out by Preeti & Kiran, (2012) and Southwell and Slater, (2012) both agreed in their findings that visually impaired users using assistive technologies encounter many challenges in accessing digital materials on library websites. Southwell and Slater (2012) further reported on the accessibility of academic library digital collections in U.S.A and found that only 42% were readable using a screen reader device, while 58% were not. The reason for the exclusion was the lack of digitally readable text associated with the digitized materials. Southwell and Slater later recommended that institutional policies and mandates should be adopted in order to achieve consistent accessibility for digital library resources.

In a related development, Zaid (2017) in her study on information provision for Students with Visual Impairments (SWVI) in Nigerian Universities, the study revealed among many how the library is currently meeting the information needs of SWVI through the use of innovative technology. The results also revealed that the following services were being offered by the library: regular meetings with a service staff, retrieval of materials from stacks, scanning and conversion of print request to CD-Rom, research assistance services; conversion of library orientation materials to braille, document delivery services; reference services, hold/track request services; online database search services; lending and inter-library loan services, and specific and general information literacy services. In sustaining this, the paper recommended that library should develop a sustainability planning process that will capture the needs of the SWVI in the library service. In ensuring accessibility of electronic information resources for visually impaired people, Kleynhans and Fourie (2013) attempted to address the lack of in-depth definitions of terms such as visually impaired, blind, partially sighted. They reported that although visually impaired and a variety of related terms such as blind, partially sighted, visually disabled, etc. are used in the LIS literature, hardly any attempt is made to define these terms in depth and this could pose a serious limitation in web and electronic accessibility evaluations. Kleynhans and Fourie (2013) further posited that the first major step in ensuring accessibility to electronic information for visually impaired persons would be to ensure that they have computer access, normally requiring a computer as well as deployment of assistive technology.

Several researches have been carried out on social inclusive education as it relates to students living with visual impairment. Peck, Staub, Gallucci, and Schwartz (2004) while reporting on a study conducted in six elementary schools in the suburban school district in the Pacific Northwest area of the United States revealed that most parents of children with disabilities held neutral or positive attitudes toward inclusive education prior to their child's enrolment in the school. The result of their finds further revealed that out of the 389 participants, 64% were positive while 26% were neutral about the inclusion of their children with students without disabilities. It be noted the school under study had provision for inclusivity and this

might have positively impact on the outcome of the study. Similarly, Asamoah, Ofori-Dua, Cudjoe, Abdullah, & Nyarko, (2018) in their study on perception of visually impaired students and teachers in Ghana towards inclusive education found out that visually impaired students and some teachers supported inclusion while a number of students without disabilities disliked the practice. The study further revealed that some teachers indicated their preference for inclusive education as a right step in ensuring equal educational opportunities. According Kuyini, Yeboah, Das, Alhassan, & Mangope (2016) reported that most studies in Ghana into attitudes to inclusive education failed to consider the perception of students without disabilities, visually impaired students, and teachers simultaneously.

METHODS

The study leveraged on WIPO-ABC Workshop on Accessible Books and Inclusive Publishing to recruit participants. The workshop was held 18 and 19 March, 2019 in Lagos, Nigeria. It was supported by the Anglo-Nigerian Welfare Association for the Blind, Nigerian Association of Blind, Nigerwives, and Braille Production Centre, Lagos. It was targeted at enlightening agencies of government, policy makers and other major stakeholders on the provisions of the Marrakesh Treaty, the activities of the Accessible Book Consortium and their responsibilities towards the blind and visually impaired persons. Participants included non-governmental organisations from Nigeria who were involved in the production of braille for blind persons'use, publishers seeking innovative ways to enhance inclusive and accessible publishing and blind students from Higher Education Institutions (HEIs) in Lagos. The participants in this study were drawn mainly from registered visually impaired students attending HEIs in Lagos (namely University of Lagos, Yaba College of Technology, and Lagos State Polytechnic) who were present at the workshop. The sample comprised 20 visually impaired respondents, all of whom were participants at the two day workshop.

The participants were aged between 19 and 45. They consisted of 11 men and 9 women. Respondents had a wide range of visual impairment, varying from partial sight to total blindness. The sample was not intended to be a true representative of the visually impaired community, but to be contextually sympathetic to the visually impaired students at the event at the time the research was conducted. A qualitative research methodological framework was employed in this study (Williams, 2007), using one-to-one interview. The interview sessions were topic-guided. This design was adopted in order to be able to explore other topics as well as to allow for probing of further questions as they emerged (Phillimore & Godson, 2004). It is a more suitable method for gaining deeper knowledge of the participants' views, perspectives, real life interactions and experiences (Bodker, 2006). The approach facilitates the understanding of meaning in context, and how perceptions are created through interaction and experiences (Moggridge, 2007). All participants used the accessed library facilities as well as academic resources and materials in their various institutions. Information about the study was disseminated to the participants during the call for invitation on the three-day workshop. They were approached to take part in the study after the close of the event. With permission from participants, interviews were audio recorded. Interviews lasted

between 45 minutes and one hour. All participants who were approached consented to participating in the study.

Interviews focused on background information about the participants, their experiences with internet use. The open-ended natures of the questions enhanced exploration of narratives (comments) of participants from their experiences of living with vision disability on their respective campuses and also helped to develop a rapport with them about the meanings they attached to not only information access, but also their sense of inclusion in society as it regards living on campus and access to repositories of academic information. Participants' ages and types of vision impairment are presented in parenthesis after quotes. The names used in this paper are all pseudonyms; in accordance with participants' ethical rights of anonymity and in order not to expose (or publish) any data linking or aiding identification of participants in the study. Interviews were thematically analysed through the creation and application of "codes" to data from interview transcripts (Strauss & Corbin, 1998), and following Grounded Theory principles (Glaser & Strauss, 1967). Audio taped interviews were transcribed and analysed using qualitative data analysis software (Nvivo). The methodological principles of "open and axial coding" were used to draw related patterns from participants' comments (Strauss & Corbin, 1998). Relevant thematic codes were identified by constant examination of themes and crosschecking of these through referencing to individual transcripts and the collective data set.

RESULTS

Access to lecture notes

Many of the participants were aware of how to adapt available technologies, such as their personal computers and phones, to their needs. Some of the participants described how they appropriated their mobile telephones to access information. According to Rotimi and Tella, both 23 and 26 year old participants respectively:

> *"With internet facilities accessible equipment even these our Android phones and use of the internet you can actually read Newspaper App on the phone so can subscribe for daily news through your mail and then you will be getting it"* [Rotimi, 23 years, Bilateral end stage glaucoma]

> *"For me I have Punch App on my phone any breaking news I get it, so all this bounce news and what have because my phone is accessibility compliant"* [Tella, 26 years, Congenital blindness]

However, despite having knowledge of how to access information using apps on phones, many participants criticised the inaccessible formats of lecture notes that were delivered to them.

> *"I think most lecturers in the department do not have the understanding of visual impairment or inclusion, education inclusion in that particular term"* [Shola, 30, Low vision]

> *"If the lecturer is telling you go and buy ABC books, the lecturer should be considerate that a visually impaired is in his class. The libraries also need to do more in order to cater for our information needs"* [John, 34, Bilateral complicated cataract]

According to them, most lecturers were yet to grasp the scope of difficulties experienced by visually impaired students particularly with converting hard copy lecture notes to accessible formats by themselves:

> *"One of the organisations that produces book for the blind, I remember I took a book to them, that they should help me to transcribe it to braille and they told me that it will take me a month to three months and by that time the semester would have been over, so those are the issues, they too may not know how well to use the existing"* [Nathan, 41, Cortical visual impairment]

Participants mentioned that having their lecture notes and other classroom information in soft (electronic) copies would significantly contribute to tackling the challenges of making information accessible to those who are blind or have low vision in higher education institutions (HEIs). They believed that having their lecture notes in soft copies made the preparation of alternate format documents as straightforward as possible:

> *"Only a few lecturers provide lecture notes and materials in soft copies. We (blind students) often request for lecture notes in soft copies, but some of them don't have it in soft copies. If they have it, they give it to us"* [Tayo, 37, Retinal Detachment and Cornea dystrophy]

> *"Without the soft copies, it is more expensive to braille. We have to pay again to transcribe (type) before we then get it brailed"[*Jibola, 42, Congenital blindness]

Access to published books and print materials

Some participants mentioned that publishers also contributed to their difficulties with accessing information. They pointed out that, in recent years, the global technology revolution is increasingly making electronic information available to visually impaired persons around the world in a variety of accessible formats, but that many publishers in Nigeria were yet to comply with international best standards for providing information to consumers with visual impairment:

> *"The problem is that most of the publishers don't factor the visually impaired into their production. Most of the books today come in that format whether it is inaccessible to the blind,"* [Mutiu, 29, Glaucoma]

> *"I think that some of the journals, publishers this days somehow do not have electronics progression of their journals if the University works with them and exploits the possibility of having those journals available in what we call electronic format, it will make the work easier for blind students who are also doing research"* [Benjamin, 34, Retinal Pigmentosa]

Other participants cited possible reasons for the lack of availability of publications in accessible formats for visually impaired persons. One of the most commonly cited reason was low level of publisher awareness of the commonly encountered difficulties experienced by individuals with visual impairment:

> *"It's just that awareness may be low among Nigerian publishers and for other reasons, maybe they fear piracy and things like that"* [Regina, 31, Glaucoma]

> *"Even the institutions' libraries lack books in accessible formats for visually impaired persons. Not much consideration is given to access for blind persons"* [Jibola, 42, Congenital blindness]

Others believed that publishers were not only to blame for poor awareness, but that blind individuals were largely unaware of alternative options and formats for accessible information that were *available to them:*

> *"We know that they (the publishers) have to make books available, we (blind persons) have to do something. There are possible options for accessibility especially the options for the blind persons to use assistive technologies"* [Tola, 40, Bilateral complicated cataract]

Participants' comments showed that they were concerned about having timely and equal access to written information just as sighted people. They wished for appropriate format choices that would enable them to be flexible about the different formats they preferred in different *situations:*

> *"If we are provided with soft copies of documents, it could either be brailed out using braille embossers, or read using screen readers, or even scanned with CCTV"* [Simbi, 27, Glaucoma]

Having a sense of inclusion

Many of the participants made comments which suggested that not much has been done at their various HEIs regarding integrating them into the education system. As their HEIs established separate specialized structures for blind students' learning and accessing information, many of the participants stated that they felt less included:

> *"There are sections where blind students can read from laptops or computers with your headsets. So they considered the space exclusively for persons with visual impairment, they considered the comfortability"*.[Jim, 28, Amblyopia]

> *"Although there are special facilities for the blind, it would have been better to allow us to work side by side with our sighted peers. This way, we could use the same work stations, and get help and guidance, rather than having to work at specially adapted stations that are separated from sighted students and feeling ostracized…[laughs]"* [Julie, 46, Cornea Dystrophy]

Participants also wished for the same level and quality of opportunities, privileges and services that were made available to sighted students. They talked about the realities of physical access in schools as well as access to existing facilities and services for the blind and visually impaired students

> *"What I will like the university to do is that upon admission of every blind person, there should be orientation conducted for them the way it is done for sighted people just like they take them around the whole place, so should blind persons be made acquainted with the equipment that are available for them"* [Cynthia, 45, Glaucoma]

> *"Visually impaired students should be taught how to use some of available facilities for information access so they just have idea because many people may not have in-depth knowledge of it. It is one thing to install all the equipment; it is another thing for the blind students to know how to use them."* [Retinal detachment and Complicated cataract]

According to some of the participants, blind students experienced a generally low sense of inclusion in the academic system. Some of them shared instances where they experienced exclusion and suggested institutional strategies that could influence a positive sense of inclusion:

> *"The school authorities actually need to be meeting with the visually impaired maybe at least once in a session. I*

> *remember they use to do that and I don't think they have done so for over two years now. It was themed "beautiful ones" and usually conducted by the counselling unit. This has not held hold for the past three years"* [Temilola, 36, Bilateral Retinopathy]

Participants also mentioned that they felt excluded within the Students-Industrial Work Experience Scheme (SIWES), which they perceived as biased in favour of sighted peers especially during recruitment for students' part time job placements. They believed that one of the avenues to promote the social inclusion of visually impaired students was through promoting equal opportunities in not only access to academic materials, but also in equal access to job opportunities:

> *"If universities set up laboratories for visually impaired students, they should not only employ sighted students as support workers, they should also employ at least, a minimum of two visually impaired persons to mentor other visually impaired persons - that is the inclusiveness that we are talking about"* [Bisola, 19, Trauma]

Many of the interviewed participants mentioned that visually impaired students often times needed special adjustments to assessment of tasks. They made a case for alternative forms of assessment, not suggesting that assessment standards should be lowered to accommodate students with a disability, but rather they should be given a reasonable opportunity to demonstrate what they have learned. They suggested having a clear picture of how vision disability impacts on learning, in order for proper alternative assessment strategies to be developed:

> *"You find out that most visually impaired have missing assessment scripts and why is it like that? It is because most visually impaired students have to write on another answer sheets. Unlike the sighted ones who have answer sheets, we have to type ours. So when the visually impaired submits such scripts you find out they submit in A4 papers, so when they are packing the scripts they don't pack it, they don't even assess the scripts. They do not understand our plight"* [Remi, 37, Bilateral Corneal Infection]

Overall, participants felt that they were not asking to be pitied, but desired that structures capable of promoting equal access and inclusion be put in place:

> *"We are not out there to come and beg but we are out there to actually come and show you that we can actually participate in whatever. Yes! Inclusiveness and accessibility actually go one-on-one"*. [Somti, 25, Cortical visual impairment]

Possible Solutions

Participants proposed some remedies to the challenges of access to information in HEIs. According to them, there should be structural and other adaptations of HEIs to the needs of persons with visual impairment. Some of them hoped for the possibilities of replicating international best practices:

> *"Perhaps, Nigerian universities need to understudy the activities in some other parts of the world where they have gone very far maybe with relevant disability affairs units that will not only cater for a student's information needs but general life on campus; you will have a more robust system in place"* [Bose, 35, Glaucoma]

> *"It is important to try seeing how other systems are doing not in just developed world but in emerging economies like India, China and similar places. It will also show a way to go".* [Rotimi, 23 years, Bilateral end stage glaucoma]

Others believed that there was a need for multi-stakeholder partnership and engagement with the private sector towards tackling the challenges of access for persons with print disabilities. They believed that such partnership strategies will allow stakeholders leverage on unique complementary efforts and core competencies in order to add value to interventions for universal access and pool resources together based on mutual benefits for everyone:

> *"What can be done is for Nigeria not just to have ratified the market street to sit down with relevant policy makers and stakeholders to see what ramification this have for them"* [Jim, 28, Amblyopia]

Some of the participants wished that their respective higher education institutions would establish special services departments and/or units that will specialize in making books and lecture notes available to those who are blind or visually impaired:

> *"I would want to see a visually impaired Resource Centre in my University – that should be able to convert any book into a format a visually impaired can access".* [Bisola, 19, Trauma]

> *"What the University can do on its own is to look at ways of seeing whether you can scan and transcribe those things and make them available in alternative formats".* [Nathan, 41, Cortical visual impairment]

DISCUSSION

The visually impaired participants in the study reported common difficulties associated with accessing information in a timely manner as well as having a sense of inclusion in the information society. According to the participants, lack of equal access (as their sighted peers) to information needs particularly in their learning environments remains a critical challenge. Among our participants, one of the most commonly cited challenges was the lack of access to soft copies of learning materials prior to the lectures. Many of them complained about access to published books in appropriate formats for visually impaired persons. There are a few studies reporting that academic curriculum and library service to the visually impaired population is not as good as it should be and that this population is not on priority focus because the predominant scholars and users of library information are sighted persons (Creaser et al., 2002). Some authors argue that many higher education institutions (HEIs) do not possess Disability Support Professionals with the requisite skills-set to address the needs of service users with disabilities (Adetoro, 2010, Ajuwon, 2008; Creaser et al., 2002).

The findings show that participants are aware of existing technology options to facilitate their access to information. Some of the participants mentioned the use of apps on mobile phones to access online information. While web 2.0 tools (such as blogs, wikis, flick, facebook, youtube, RSS feeds, microblogs, social bookmarks, Whatsapp, and slideshare) are incorporated into platforms for academic information sharing in developed countries, not much of such social media platform is in formal use in Nigeria HEIs for delivery of curriculum and the extent of accessibility on these platforms for visually impaired students remains unexplored. The changing landscape of information service delivery on social media continues to challenge traditional models of information services (Syombua, 2015). The current generation of young people are often referred to as 'digital natives' or 'netGen' users because they have grown up in an environment surrounded by rapidly evolving technologies (Syombua, 2015). Thus, with this kind of simple technologies, delivery of information to students in Nigerian HEIs should evolve to respond positively to the dynamic demands of 'netGen' users and allow them to participate actively in the creation of content and building services based on their feedback – including visually impaired students.

Findings also show how institutional barriers found could contribute to feelings of social exclusion among persons with vision disabilities. As an example, some of the participants alluded to difficulties of equal access to opportunities for part-time employment in HEI SIWES programs. Being gainfully and meaningfully employed is essential to an individual's economic security, personal wellbeing, physical and mental health, as well as sense of identity and inclusion. Unfortunately, only a few people with vision disabilities are meaningfully employed in Nigeria due to disablist stereotypes ranging from employer discrimination to misunderstandings and misconceptions about vision impairment. More than 86 per cent of people who are blind or have low vision are unemployed in Nigeria (Balarabe et al., 2014; Eneh, 2011). The lack of employment and restricted opportunities to earn income has resulted in high level of poverty among blind people compared to the rest of the Nigerian population and some blind persons resort to street begging to eke out a livelihood (Balarabe et al., 2014). It was based on this context that one of the participants in the study (Somti)

mentioned that blind students "are not begging" – in other words, they do not wish to be beggars, but active participants in their social and economic world.

The findings from this study echo recommendations made by previous studies that, HEI curriculum and information services (in all formats) should be made accessible without prejudice to students with visual disabilities as this is the basis for enabling them to participate as active citizens provided with opportunities to make informed choices and decisions. In addition, availability and accessibility to accurate and current information resources and services are veritable means of developing human resources and promoting sustainable self-reliance and national development. Human resources are most valuable resources and vital elements in the development of a country. They are the resources that can be developed, and education must be used as the most important process in building people's knowledge, experiences, skills, high moral and ethics. They all help to prepare the individuals for service and sharpen their ability to pursue a profession or trade.

Participants' recommendations included installation of adaptive tools and implementation of strategies for effective teaching as well as inclusion of visually impaired students. Access to information resources and services enhance the rights of persons with disabilities to participate equally in society. Often, the design and delivery of academic curriculum as well as online information, often, do not fully consider the challenges of access for visually impaired groups. The findings of this study should be significantly relevant and not only to HEIs, but to public libraries, publishers, professionals in special education, visually impaired persons and researchers with interest in disability studies.

Limitations of study and Conclusion

The study has a few limitations. First, the study is limited to only participants with vision impairment. Future studies could explore issues of access to information among users with different disabilities or co-disabilities such as hearing and visual impairment. Second, the small sample size and the qualitative nature of the study make it difficult to generalise findings. Third, the sample is not a true representative sample of the visually impaired population, but a convenient sampling of visually impaired research participants contextually sympathetic to the visually impaired population at the study site at the time the study was conducted. The study, however, presents some novelty as it provides a nuanced understanding of the challenges of access to information faced by visually impaired individuals. With the exemption of a few studies (Ezenwafor-Ozoji, et al, 1998; Ekwelem, 2013), voices of visually impaired persons are, to a large extent, absent from empirical research. This study is the first to present an entirely qualitative perspective of the views and perceptions of visually impaired persons regarding the issue of information access especially in Nigerian HEIs. Overall, the study findings suggest that visually impaired individuals are eager to be active participants in the society and seek equal opportunities for access to information as well as platforms for social inclusion.

REFERENCES

Adetoro, N. (2011) Availability and use of information materials by persons with visually impairment in Nigeria. *Information Society and Justice*, 4 (2), 5-18.

Adetoro, N. (2010). Reading interest and information needs of persons with visual impairment in Nigeria. *South African Journal of Libraries and Information Science*, 76(1), 49-56.

Ajuwon, P. M. (2008). Inclusive Education for Students with Disabilities in Nigeria: Benefits, Challenges and Policy Implications. *International journal of special education*, 23(3), 11-16.

Aluede, O., Idogho, P. O., & Imonikhe, J. S. (2012). Increasing access to university education in Nigeria: Present challenges and suggestions for the future. *In The African Symposium*. 12(1) 3-13.

Asamoah, E., Ofori-Dua, K., Cudjoe, E., Abdullah, A., & Nyarko, J. A. (2018). Inclusive Education: Perception of Visually Impaired Students, Students Without Disability, and Teachers in Ghana. *SAGE Open*, 8(4), 2158244018807791.

Atinmo, M. I. (2012). *Including the excluded: Providing equitable access to information*. Ibadan University Press.

Babalola, Y. T., & Haliso, Y. (2011). Library and information services to the visually impaired-the role of academic libraries. *Canadian social science*, 7(1), 140-147.

Balarabe, A. H., Mahmoud, A. O., Omolase, C. O., & Nasiru, M. (2014). Exploring the options for alternative means of livelihood for blind street beggars in Sokoto, Nigeria. *Nigerian Journal of Clinical Practice*, *17*(5), 637-640.

Bhardwaj, R. K., & Kumar, S. (2017). A comprehensive digital environment for visually impaired students: user's perspectives. *Library Hi Tech*, 35(4), 542-557.

Bloom, D. E., Canning, D., & Chan, K. (2006). *Higher education and economic development in Africa* (Vol. 102). Washington, DC: World Bank.

Bodker, S.(2006). When second wave HCI meets third wave challenges. In: *Proceedings of the NordiCHI*, Olso (Norway), pp. 1–7.

Creaser, Claire, Davies, J. Eric, and Wisdom, Stella (2002). Accessible, open and inclusive: How visually impaired people view library and information services and agencies. *Journal of Librarianship and Information Science*, 34(4):207-214

Ekwelem, V. O. (2013). Library services to disabled students in the digital era: challenges for outcome assessment. *Library Philosophy & Practice*. Retrieved **February** 17, 2019, from http://tiny.cc/5qui5y

Eneh, O. C. (2011). Nigeria's Vision 20: 2020-issues, challenges and implications for development management. *Asian Journal of Rural Development*, *1*(1), 21-40.

Ezenwafor–Ozoji, E. D., Jurmang, I. & Yusuf, M. (1998). Learning difficulties in the education of the visually impaired in the University of Jos: A needs assessment. *The Exceptional child.*2 (1): 87-90.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. *Chicago: Aldire*.

Hannon, F. (2005). *Promoting the participation of people with disabilities in physical activity and sport in Ireland. Disability research series. 3. National Disability authority*. Retrieved February 17, 2019, from http://nda.ie/Image-Library/PDF-Downloads/Physical-Activity-and-Sport-Report.pdf

Hill, H. (2013). Disability and accessibility in the library and information science literature: A content analysis. *Library & Information Science Research*, 35(2), 137-142.

Ifidon, S. E., & Ifidon, E. I. (2007). *New directions in African library management*. Spectrum Books. 35p.

Kleynhans, S. A, & Fourie, I. (2014). Ensuring accessibility of electronic information resources for visually impaired people: the need to clarify concepts such as visually impaired. *Library Hi Tech*, 32(2), 368-379.

Kuyini, A. B., Yeboah, K. A., Das, A. K., Alhassan, A. M., & Mangope, B. (2016). Ghanaian teachers: competencies perceived as important for inclusive education. International *Journal of Inclusive Education*, 20(10), 1009-1023.

Moggridge, B., & Atkinson, B. (2007). *Designing interactions* (Vol. 17). Cambridge, MA: MIT press. 114p.

Peck, C. A., Staub, D., Gallucci, C., & Schwartz, I. (2004). Parent perception of the impacts of inclusion on their nondisabled child. *Research and Practice for Persons with Severe Disabilities*, 29(2), 135-143.

Phillimore,J. And Goodson,L. (2004) Qualitative Research Approach. *Indo-Pacific Journal of Phenomenology,* 9(2):1-12

Preeti, T., & Kiran, U. V. (2012). Infrastructural Facilities for Differently Abled Students-A Comparative Study of Government and Non-Government Institutions. International *Research Journal of Social Sciences*, 1(3), 21-25

Saint, W., Hartnett, T. A., & Strassner, E. (2003). Higher education in Nigeria: A status report. *Higher education policy*, 16(3), 259-281.

Southwell, K. L., & Slater, J. (2012). Accessibility of digital special collections using screen readers. *Library Hi Tech*, 30(3), 457-471.

Strauss, A. & Corbin, J.M (1998). Grounded Theory in Practice. SAGE.134p.

Syombua, M. (2015). Library 2.0 and the changing landscape of information services in academic libraries in Kenya. *International Journal of Library and Information Science.* 7(10), 183-187.

UNESCO (2009). People with visual impairment reading the world/the importance of ICT for visually impaired. Innovative Programmes and Projects. Unesco, Jakarta. http://www.unescobkk.org/fileadmin/user_upload/ict/Announcement_e-Newsletter/18Sep09.pdf Retrieved 13.12.2009

Williams, C. (2007) Research Methods, J*ournal of Business and Economics,* 5 (3): 65-72.

Yoon, K., Dols, R., Hulscher, L., & Newberry, T. (2016). An exploratory study of library website accessibility for visually impaired users. *Library & Information Science Research*, 38(3), 250-258.

Zaid, Y. A. (2017). Information provision for students with visual impairments in Nigerian universities: Charting a course from project to service delivery. *Journal of Applied Information Science and Technology*, 10(1) 67-78