

Library services provision to visually-impaired users in academic libraries: A gap in the literature

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Abstract

The importance of providing library and information services to the visually-impaired students for educational pursuit in academic libraries cannot be ignored. This is because the students cannot use the normal facilities that their sighted counterparts uses, they require special facilities and services. This paper sought to provide a systematic review of theoretical and empirical literature about services provision for visually-impaired students in academic libraries. Reviewing the related literature focuses mainly on studies about availability of and accessibility to facilities for this category of students, perceptions about providing services for the students, training in visually-impaired services provision, accessibility to the services by the students, constraints to effective visually-impaired services provision in academic libraries as well as appraisal of reviewed literature. An in-depth account of the selected and related literature indicated that, many libraries in the university seldom provide services for the students who are visually-impaired due to limited financial and human resources, insufficient assistive technology, inadequacy of funding and absence of trained personnel among others. This category of students have limited access to many of the major required facilities and services. Furthermore, the article contributes to the growing body of knowledge and builds on existing literature in this area of study.

Keywords: Users, library service provision, visually-impaired, academic libraries, literature gap

Introduction

Library is defined as a store house of information that is in different formats (print and non-print), carefully selected, acquired, organized, arranged and displayed for users who have various needs of the information that are stored in the library by trained individuals who are called librarians. These libraries are established to serve a number of purposes such as, research, learning, community service, and are also meant to serve individuals who are visually-impaired (International Federation of Library Associations and Institutions (IFLA), 2021). Providing services for the visually-impaired students in the university environment is a way of ensuring an equal and inclusive educational growth.

Physically challenged individuals or differently-abled persons could be in the form of sight, hearing, speech and so on and should not be discriminated against because they also need the information that are stored in the library. Visually-impaired students are unable to read normal prints, as such they require special facilities to access library materials in order to accomplish their academic pursuit.

Services Provision to the visually-impaired students in Nigerian academic libraries appears to have suffered a serious neglect over a long time and this has led to a situation whereby many of the students are information starved. A study conducted in Poland by Szubielska (2018) showed that persons who suffers from visual impairment are often thought of as

different and strange, while it was believed that the visually impaired are under a curse in some African community. Szubielska added that the stereotypical opinion about the blind people has not changed from what it used to be in the past.

Studies have shown that provision of library services for these students could increase their thinking capacity to remember facts (Soria, Fransen & Nackerud, 2013), enhance their academic pursuit (Wong & Webb, 2011), and increase their reasoning skills (Megan, 2015; Kumar, Alpha & Rajmma, 2016). Visually-impaired services provision (VISP) for the students in an appropriate format gives them convenient access to all learning resources. However, compared to their sighted counterparts, the visually-impaired students are inequitably provided with library services (Adetoro, 2011, 2012).

All users of academic libraries must be able to access and use the library's collections. This is essential to meet long-standing academic libraries' goals to acquire information resources to support and serve their parent bodies and to create a platform where every information seeker will have their requirements adequately addressed. It is also consistent with academic library ideals. As a result, university libraries should offer their visually impaired customers resources and services to remove obstacles to information access. Libraries play crucial roles in creating inclusive societies by catering to a varied spectrum of users.

According to the International Federation of Library Associations and Institutions (IFLA) guidelines (2015), "collection development should be based on the principle of access for all and include access to formats appropriate to specific client groups, such as braille and talking books for blind people." This policy emphasizes the significance of service provision for the visually-impaired by all type of libraries. Therefore, this

paper provide a systematic review of theoretical and empirical studies about the provision of services for the visually-impaired users of academic libraries. It presents a compendium of relevant studies inherent in the presented literature on library services for the visually-impaired generally across the world and specifically in Nigeria.

This paper adopts a descriptive content analysis and the PRISMA method by Urrutia and Bonfill (2010) to provide a systematic literature review. This article review and discusses relevant aspects of the services provision for visually-impaired students in academic libraries and are presented as clearly evidenced by reviewing theoretical and empirical literature. Reviewing the related literature focuses mainly on studies on availability of and accessibility to facilities for this category of students, perceptions about providing services for the students, training in visually-impaired services provision, accessibility to the services by the students, constraints to effective visually-impaired services provision in academic libraries as well as appraisal of reviewed literature.

Availability and accessibility of visually-impaired service provision in academic libraries

Provision of and establishing an efficient library service for the visually-impaired students is critical because there are far fewer books available commercially in accessible formats than are published in print for the general public. The need to create collections in alternative formats and make them accessible to readers who are unable to browse shelves necessitates the development of specialized services. The visually-impaired want to be able to access relevant information in their preferred accessible format.

The extent of information provision for the students with visual impairment (SWVI) in the University of Lagos was

examined by Zaid (2017) with a focus on the outcomes of the Braille Project, which was funded by a non-governmental organisation to meet the SWVI's information needs. The research was based on a case study of the university library service mechanism in order to develop a long-term information service to meet the needs of the SWVI. Its findings are based on a systematic review of the relevant literature as well as 35 in-depth interviews with SWVI at the Soroptomist Braille Centre at the University of Lagos. The interview data were subjected to content analysis and ethnographic summaries. The findings revealed how the library is currently meeting SWVI's information needs by utilizing innovative technology. Regular meetings with a service staff, retrieval of materials from stacks, scanning and conversion of print requests to CD-ROM, and other services were also discovered.

Majenge and Mutula (2018) discusses the effect of copyright on people with visual impairments' access to electronic and print information resources in university libraries. The study was founded on a review of empirical and theoretical literature, which was supported by Oliver's (1990) Social Model of Disability. The findings revealed that many university libraries around the world lack the capacity to provide effective information services to this category of users. Also, copyright laws and licensing regimes for purchasing or transcribing contents from one format to another makes it difficult to provide information services to people with visual impairments.

Abutayeh and Garcia-Orosa (2021) examined access to services that are presented to visually-impaired users in academic libraries. The study identified the types of information services offered to visually impaired users in academic libraries at the University of Jordan and Cairo, as well as the similarities and differences between the two groups using

the SERVQUAL survey. Dimensions of information resources, assistive technologies, and communication media were also investigated. The Sequential Explanatory Strategy consisting combining quantitative and qualitative approaches (survey and interviewing) was used. The participants are the randomly selected staff from two academic libraries in University. The findings revealed a lack of digital resources and assistive technology in both libraries for serving blind users. There were similarities in the accessibility of websites and databases, but significant differences in providing some types of digital materials to visually-impaired users.

Chaputula and Mapulanga (2016) investigated the provision of library services to people with disabilities in Malawi. A mixed methodology was used as the research design. The survey included all 56 libraries, and fourteen students with disabilities (one from each institution, where possible) were purposefully chosen for the interview. The questionnaire was used to collect quantitative data, while interview guides were used to collect qualitative data. Microsoft Excel was used to analyze quantitative data, while thematic analysis was used for qualitative data. The paper emphasizes the lack of library and information services for disabled people are recognized potential barriers. It also revealed a lack of equipment to help disabled people access library and information resources. Similarly, despite an increase in the number of people with disabilities, most libraries do not provide specialized training, such as induction sessions, or market services that cater to those with disabilities.

Bolarinde and Onifade (2020) investigated library resources and services provision to visually impaired students at the Oyo State School for the Blind, Ogbomosho, Nigeria. The descriptive survey research design was used, with a

questionnaire as the data collection instrument. The population consisted 50 visually impaired students, and the findings revealed that information needs on health, job security, education scholarship, sport and recreation were not provided at all, so it was recommended, among other things, that good relationships be established between library staff and students with disabilities.

Examining the evolution of library services for the blind and physically challenged in Nigerian universities, Eskay and Chima (2013) focused on the University of Nigeria, Nsukka (UNN), to determine if the university met the needs of this group of library users using assistive technologies. The study identified the barriers to service delivery for the visually impaired in Nigeria and proposed workable solutions to improve such services. The study recommended that special education teachers and university administrators should try to provide facilities and hire teachers with strong Braille literacy skills to teach visually impaired students.

Bhowmick and Hazarika (2017) conducted a statistical survey across various sub-disciplines in the field of assistive technology for the visually impaired, and then used information analysis and network-theory techniques to answer several key questions. To analyze the field, a large database of scientific research publications from the last two decades was compiled. They deduced patterns and statistics about the main research areas and underlying themes, identified leading journals and conferences, captured research field growth patterns, identified active research communities, and presented interpretation of trends for the near future. The findings revealed that this field had grown steadily, from less than 50 scientific publications per year in the mid-1990s to nearly 400 in 2014. Assistive technology for people with visual impairments is expected to grow

rapidly and impact the lives of individuals and the elderly in unprecedented ways.

Librarians' perception of visually-impaired services provision in academic libraries

Perception means a particular way of understanding or thinking about something. Every professional plays a distinct role in advancing society. The evolving role of the librarian in the twenty-first century necessitates their involvement in providing services to print disabled users in order to aid in their academic development. In accordance with this premise, how librarians conceptualize visually-impaired service provision may affect their involvement in the programme. They can only be involved in a programme in which they understand and appreciate.

Ndumbaro (2019) investigated library staff attitudes toward people with visual impairment in Tanzanian university and public libraries, with regards to the provision of library and information services by employing both quantitative and qualitative research approaches. The study's population included visually impaired users, library staff, library directors, readers for people with visual impairment, and institutions related to people with visual impairment. The findings revealed that library staff had a positive attitude toward people with visual impairment and that the service was inadequate due to lack of policy on handling this group of users. It further indicated that in the provision of library and information services, people with visual impairment were perceived differently by library staff in Tanzania.

Sedighi, Isfandyari-Moghaddam, and Zarei (2020) considered the most important user interface criteria of digital library providers' services to the blind and visually impaired from the perspective of blind digital librarians. A researcher-constructed questionnaire was distributed to blind digital librarians employed by

Iranian blind digital libraries. The findings indicated that “different formats of library resources” and “ability of organizing the screen” in sequence gained the highest and lowest score.

Bodaghi, Cheong and Zainab (2016) investigated the role of academic librarians' communication skills in the success of the VIP transition program. The study gathered data through interviews and focus groups. The results indicated that participants viewed librarians' tone of voice, greeting, and conversation as critical factors in a smooth transition. They also mentioned that the main challenges they faced were a lack of opportunities to interact with librarians and a lack of disability awareness and knowledge on the part of librarians. This conclusion implies that simply interacting with disabled users can increase their comfort level and attitudes toward future interactions of a similar nature.

Bodaghi and Zainab (2013) explored visually impaired persons' (VIPs) sense of belonging in a university library setting. They focused on their perceptions and experiences with study carrels in the university library. Data were gathered through interviews and focus group discussions. Participants ranged in age from 20 to 37 years old and included five females and thirteen male students. Participants viewed their carrels as second homes where they felt safe, comfortable, accepted and also gave them a sense of belonging. The carrels further served as social places where they could interact with peers, volunteer readers, and other sighted students. They saw their carrels as quiet havens where they could study and learn. They felt they belonged in the library community and were honoured to be accepted as university students. The findings had the potential to raise library management's awareness of the importance of including these types of spaces in future design.

Training librarians for provision of services to visually-impaired students in academic libraries

Studies have shown that visually impaired people seek information through interpersonal channels more often. Studies have been carried out by researchers on lack of trainings for the librarians who are meant to make services available and accessible for the visually-impaired students. Librarians are not properly trained on how to convert print materials to braille and other e-resources for the accessibility of these category of students in academic environment.

Babalola and Haliso (2011) suggested that as part of library staff training, two academic departments could be involved in a project towards production of talking books. This will lower the cost of producing information in a format that is accessible to the visually-impaired. Institutions with functional studios could take on such a project. Collaboration between the university library and the Department of Information Sciences will be required for the project. The need to adopt inclusive practices that will enable libraries extend services to exceptional categories especially those with visual impairment is also mentioned, when they opined equally inclusive strategies are regularly scheduled consultations with staff designated specifically to serve the needs of the visually impaired. The designated staff will surely need special training in order to effectively take care of the needs of the visually-impaired persons.

In their study, Akolade, Tella, Akanbi-Ademolake and Adisa (2015) stated that despite academic libraries' efforts to meet the needs of their users, some groups of physically challenged users are still underserved in terms of information and service provision. The study examined the satisfaction of physically challenged undergraduates with library and information services in Kwara

State higher education institutions. The results revealed that the information needs of physically challenged undergraduates in various higher institutions were not met due to lack of training of the library staff. Physically challenged students were not included in the library's decision-making process, and specific information materials that met their library needs were not available. Based on the findings, the study recommended that library staff be trained in order to meet their needs, and that they be included in the library's decision-making process regarding collection development.

In the library schools, it is observed that there was no training on how to render services to the visually-impaired students. The curriculum does not have practical components on how to make available and accessible information and services to the students.

Access to facilities for visually-impaired services provision in academic libraries

Students in tertiary institutions need access to books and information for a lifelong learning, work, leisure, and to play a full part in the society. This information is supposed to be provided by the academic libraries to support the goals of their parent institutions in assisting their users, including the disabled to be productive and successful in other endeavours. According to Babalola and Haliso (2011), libraries and librarians provide people with access to the essential information they need to participate in the emerging information society. Libraries therefore, have an obligation to meet the needs of a diversifying population. Libraries, by facilitating full participation in society, can play a catalytic role in the lives of people with disabilities. As a result, libraries are expected to use strategies based on universal design principles to ensure that library policy, resources, and services meet the needs of all people.

Osadebe, Onuigbo and Ewa (2019) explored library services provided for students with visual impairment in six Nigerian federal universities to determine their needs and establish their level of satisfaction with the current services they are receiving. Survey design was employed on purposively selected 341 students and 24 librarians. Data was gathered using a questionnaire and an interview. The questionnaire data was analyzed using frequency counts and percentages, while the interview data was transcribed, coded, and sorted, with relevant themes identified. The researchers found out that library policy, technical, and personnel factors influence the delivery of library services to students with visual impairment. The study recommended, among other things, that university libraries conduct user satisfaction surveys on a regular basis to ensure that their services meet the expectations of their clients.

Studies like those of Osadebe, Onuigbo and Ewa (2019), Babalola and Haliso (2011), indicated that in order to assist the visually-impaired students to access library and learning resources, staff also need to have access to the facilities to serve them. Therefore, the means of accessibility to the facilities is supposed to be provided by the university libraries to support the goals of their parent institutions in assisting their users, including the disabled to be productive and successful in other endeavours. Librarians have the obligation to meet the needs of a diversifying population and to provide access to essential information that the visually-impaired require to participate in the emerging information society.

Library services accessed by visually-impaired students in academic libraries

The information behaviour of visually impaired users in Lagos State was documented by Adesina, Toyese, Ambali and Otonekwu (2022) with a focus on the

type of information being sought after in order to cope with the prevailing COVID-19 pandemic and life situation in general. According to them, visually impaired persons require information about blind health and welfare programs, current awareness, specific reading for examination as well as general knowledge development. They further provided tips on addressing the demands of the visually impaired persons to include provision of readable and audible information resources such as smartphones, computers, screen reader software, screen magnifiers, Braille books, audiobooks and voice output devices among others.

Menzi-Cetin, Alemdağ, Tüzün and Yildiz (2017) assessed the usability of a university website by visually impaired students by conducting interviews with six visually impaired students and identifying the assistive technologies they use as well as the various web pages they wished to use unaided. Usability tests and satisfaction surveys were carried out. According to the findings, final exam dates on the academic calendar posed significant challenges, and accessing the course schedule web page took the most time. The results of the tests also demonstrated the need for a search engine on each page, a text version for all pages, rearranging web link sequences with tabs, and more information about visuals.

Phukubje and Ngoepe (2017) examined the ease of use and accessibility of library services for students with disabilities at the University of Limpopo in South Africa and discovered that, despite the special needs standards, access to library services by students with disabilities is still not entirely available. The study made use of quantitative information gathered through surveys given to handicapped students, an interview with the librarian in charge of the unit for

disabled students, and observations made using the IFLA checklist for disabled people's access to libraries. The study found that although there was a specially designed library service unit for students with disabilities that complies with international best practice, the students were not sufficiently satisfied with the library services they received because only a very small percentage of library materials had been converted into accessible formats, even though only one librarian had been designated to manage and run the library services for the disabled.

According to Atinmo (2012), returned questionnaire from the visually-impaired respondents provided their educational background to be 41.8% of visually impaired who had primary school certificate, 38% had secondary school certificate, 4.2% had first degree while 1.2% had Master degree. Also, 86.9% of them could read and 86.3% could write Braille proficiently. The result also revealed that the respondents' desire for educational advancement was their preference for textbooks, while interest in computer literacy and Internet accessibility was minimal.

The study therefore pointed out the urgent and critical need to supply these students in tertiary institutions with readable materials. Access through e-resources like assistive technologies (screen magnifier, screen reader and voice recognition software), Internet, www and computers have significantly changed the situation of visually impaired persons for better as far as access to information is concerned. This is because, by using these resources, there will be no need for mediators like agencies producing alternative formats or volunteers and friends to read to them. By so doing, individual access to original sources of information is made possible and easy.

Wu, Wieland, Farivar, and Schiller (2017) created and implemented the

automatic alt-text (AAT) system, which uses computer vision technology to recognize people, objects, and themes in images in order to produce photo alt-text for Facebook screen reader users. The system was created through multiple cycles of prototyping and in-lab user studies, and it was assessed during a two-week field study for 9K VoiceOver users using the Facebook iOS app. They divided them into control and test groups at random, recorded their activity data over a two-week period, and solicited their survey responses. The test group judged Facebook to be more useful overall and that Facebook's photographs were easier to understand and more interesting. The method also shows how artificial intelligence can be utilized to improve the experience for visually impaired users on social networking sites (SNSs). The system further revealed the difficulties in developing automated assistive technology for social networking sites (SNS).

Despite understanding and knowing the language, visually impaired people frequently struggle to read letters, according to Jung, Minseo, Taejun, Insu, Jun, and Summoo (2018). The automatic reading of text for youngsters or visually impaired people was the focus of this investigation. They create a system that automatically reads storybooks and geographical information guides to enhance children's learning and enhance the quality of life for persons who are visually impaired using QR codes and text compression algorithms such as SMAZ and TTS.

Walczak and Fryer (2017) presented a study that examined the impact of audio description (AD) style on audience presence dimensions (spatial presence, ecological validity, engagement, and negative effects). The participants were shown two fragments of a naturalistic drama with two styles of description: 'standard' and 'creative'. While the former adhered to the principle of objectivity, the

latter was a novel type of AD that included camera work as well as subjective descriptions of the characters, their actions, and crucial plot scenes. The findings revealed that the emotive AD increased all participants' levels of presence. Overall, the new AD style appeared more natural, especially to participants who had recently lost their sight. The findings suggest that creative scripts may stimulate presence, increasing the likelihood of AD users having a more immersive viewing experience. This is important because to provide resources and services that are inaccessible to all specific groups of learners are invariably alienated from actively, independently, and successfully participating in the world of academia.

Constraints to effective visually-impaired services provision in academic libraries

As students, the visually-impaired encounter barriers in their quest for education. Eskay and Chima (2013) identified some to include lack of reliable data on the number, age, gender, and educational level of the blind. Statistical data has always been a source of concern for African countries in general. This makes developing a program with specific goals difficult. Other difficulties include limited financial and human resources, lack of production and distribution of facilities for reading materials, lack of properly trained library personnel as well as architectural barriers. Most libraries (particularly university libraries) were built long before they considered providing materials for the blind. As a result, high steps, high book shelves, narrow doorways, and a lack of elevators are still common in many Nigerian libraries. These challenges can be extremely frustrating, if not impossible to overcome for the blind.

Abodunrin and Olutoyosi (2020) examined bottlenecks to effective academic library use among students with

visual impairment in Oyo state tertiary institutions. The study used survey research design of *Ex post facto* type. The population consisted of seventy students that were purposely selected and used self-designed questionnaire to collect data. Descriptive statistics, employing frequency count, percentages, mean and standard deviation was used to analyse the collected data. The results revealed that library environment and physical structure were the major factors affecting the effective utilization of the library among the visually impaired. It was also discovered that library personnel serve as impediment to effective utilization of the library by these students. The result further revealed that students with visual impairments face numerous challenges in accessing and using academic library services.

Golubova, Starke, Crossland, and Wolffsohn (2021) explored Low Vision Aids (LVAs) requirements through a structured de-brief interview following a real world self-recording study. The study attempted to define the actual needs of those living with vision loss in order for low vision services to better address them in the future. A one-week de-brief interview was conducted with 32 visually impaired volunteers with varying levels of previous LVA experience. The use of content and thematic analyses had the goal of contextualizing the recordings and investigating requirements pertaining to psychological, functional, and design factors. The results reported that many of the tasks which they had recorded were the most important to participants, majority of which were encountered frequently. Current LVAs identified as consistently poor were distance LVAs. The lack of consistency in the responses illustrated potentially different user groups with divergent design requirements. According to the study, there is a significant opportunity for new LVAs to address visual needs that traditional devices and coping strategies cannot

address. For future LVAs to be relevant and widely accepted, functional, psychological, and design factors must be carefully considered.

Osman and Kwafoa (2020) investigated the provision of library services for the visually impaired in three public universities in Ghana. The research methodology used in the study was both quantitative and qualitative. The quantitative aspect was addressed using a descriptive survey design, while the qualitative aspect was addressed using a case study research design. The population of the study consisted of the visually impaired students, president of the visually impaired students association of Ghana and head librarians from the selected universities. The instruments used for data collection were a brailled questionnaire and semi-structured interview guide. The findings revealed that even among them, knowledge of library services was generally high and there was the need for tailor-made orientation for them. Also, financial and logistical challenges remained the greatest constraints to the provision of library services for them.

The identified gap

A gap in the literature can be viewed based on the opinion that librarians' perception about providing services for the visually-impaired were not groomed right from the library schools. Overall, studies conducted on VIS provision across the world such as those of Khachatryan, (2014), Eskay and Chima (2013), Lawal-Solarin (2012), Babalola and Haliso (2011), Adetoro (2011), Lucky and Achebe (2013), have established that the emergence of specialized information services to meet the library and information needs of the visually-impaired has no doubt positively affected the quality of librarianship practices to the extent that the services being provided for the visually-impaired has improved. Library staff could not efficiently serve the visually-impaired

today without being trained on the use of the visually-impaired special facilities.

In Nigeria, studies on VIS provision like those of Eskay and Chima (2013), Lawal-Solarin (2012), Babalola and Haliso (2011), Adetoro (2011), Lucky and Achebe (2013), have revealed that libraries in Nigeria adopted visually-impaired service provision much more lately and service provision is poor in comparison to libraries in developed countries. This clearly pointed to the fact that libraries in Nigeria have joined their counterparts in the developed and other developing countries in providing service for the visually-impaired users. Several impediments to visually-impaired service provision were identified to include poor funding, absence of properly trained library personnel, scarcity of information materials in alternative formats, insufficient assistive technology, lack of statistical data, non-availability of production and distribution facilities for reading materials. It is, however, obvious that in spite of the existence of many studies on VIS provision in Nigeria, there remains much to be explored and investigated in terms of VIS provision.

Conclusion

Therefore, an in-depth account of the selected and related literature concluded that, many libraries in the university seldom provide services for the students who are visually-impaired due to limited financial and human resources, insufficient assistive technology, inadequacy of funding and absence of trained personnel among others. This category of students have limited access to many of the major required facilities and services. Furthermore, the article contributes to the growing body of knowledge and builds on existing literature in this area of study. In addition, the library services available and accessed by the visually-impaired users in academic libraries is generally poor and

access through electronic resources are lacking.

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