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# Library Services for the Visually Impaired: Case Study of Academic Libraries in Ghana

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# LIBRARY SERVICES FOR THE VISUALLY IMPAIRED: CASE STUDY OF ACADEMIC LIBRARIES IN GHANA

BY

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## Abstract

*The library has always been acknowledged as the hub of information to all in the academic environment. However, library services for the visually impaired in developing countries is often constrained due to social, financial and logistical challenges (Rowland, 2008; Hopkins, 2000; Willoughby, 1990). This study therefore examined the provision of library services for the visually impaired in three public universities in Ghana. The study adopted both qualitative and quantitative research methodologies. The descriptive survey design was adopted for the quantitative aspect of the study whiles case study research design was used for the qualitative aspect of the study. The population of the study consisted of the visually impaired students, Presidents of the Visually Impaired Students Association of Ghana and Head Librarians from the three selected public universities. A brailed questionnaire and semi-structured interview guide were the main instruments used for data collection. The interviews were recorded using an Olympus VN-2100PC digital voice recorder. The study revealed that even knowledge of library services was generally high among Visually Impaired Students (VIS) there was the need tailor-made orientation for the VIS. Also as identified in previous studies, financial and logistical challenges remained the greatest constraints to the provision of library services for the VIS.*

*Key words: Visually Impaired, Library Services, University, Academic, Community, Ghana*

## Introduction

A university, public or private, as a center of higher learning, has a core mandate for teaching, learning and research. A university may not have halls of residence or hostels and cafeteria of its own to provide services for its students, however, for it to deliver effectively on its corporate

mandate, it must have a well established library to provide quality information to students, staff and faculty members including the physically challenged. In Ghana, having a well resourced library is a prerequisite for a university's accreditation. The library is therefore an essential unit/department of a university set up; indeed it is viewed by many as the nerve centre of a university as far as academic work is concerned. The World Health Organization (WHO) presently estimates that approximately 285 million people are visually impaired worldwide (WHO Fact Sheet No. 282). According to the Ghana National Blindness and Visual Impairment Study 0.74 percent of Ghanaians are visually impaired. This therefore calls for the government and civil societies to critically address the information needs of the Visual Impaired. Since the enactment of the Ghana Disability Act, 2006 (ACT 715), there have been several calls to make public facilities and services accessible to all people with disability.

According to Kharamin & Siamian (2011), the real challenge in the information age is not with "producing or storing information", but "getting people to use information appropriately". IFLA Guidelines for Development of The Public Library Service (2001) stated that "the development of collections should be based on the principle of access for all including access to formats appropriate to specific client groups". According to Michell (1996), "the ideal library service is one which each individual, regardless of their degree of disability, has access to the materials and information at the time they are required, in a format that can be used, in the quantities that are needed, and where the needs of the user are understood by the staff. In a nut shell, the resources and services of a library must be accessible to all irrespective of their level of ability or disability.

As noted by Rowland (2008) the social, political and economic environment constitutes a major barrier to the information seeking behavior of the visually impaired. Libraries are therefore the only avenue where people with visual impairment can access information with little or no cost to them. However, Friend (2009) asserts that "less than 5 percent of the information materials available to sighted library users are accessible to the visually impaired". This is mainly because in many developing countries, access to information infrastructure is limited and this greatly limits the capacity of libraries to meet the information needs of the visually impaired. According to Rowland (2008) the physically or visually challenged generally are viewed as abnormal and are often excluded from the mainstream public services. It is against this background that this study sought to examine the kinds of library services available to visually impaired students in public universities in Ghana.

## Purpose

The purpose of this study was to examine the provision of library services for the visually impaired in the public universities in Ghana.

## Objectives

1. Examine the kinds of library services available to visually impaired students in public universities.

2. Evaluate the adequacy of the provision of library services for the visually impaired.

3. Analyse the preferred formats visually impaired students want their library resources to be in.

4. Challenges faced by libraries in service provision to visually impaired students.

## Scope of the Study

The study covered three public universities out of a total of nine in Ghana. The three Universities are; the University of Cape Coast, situated in Cape Coast; University of Education, Winneba, located in Winneba; and the University of Ghana, Legon in Accra. The University of Cape Coast was set up as University College in October, 1962 as a result of a recommendation of an international commission appointed by the Ghana Government in December, 1960 to advise on the future of University education in the country and the possibility of establishing a third university at Cape Coast. The University was established with the core mandate to training teachers or educators for Second Circle Institutions in Ghana. Currently, the university has a total of 30 visually impaired students representing 0.05% of the total student population.

The University of Education was established in 1992, initially as a University College under PNDC Law 322, with some diploma awarding colleges, including the Advanced Teacher Training College, the Specialist Training College and the National Academy of Music all located at Winneba and the School of Languages at Ajumako. All these institution are in the Central Region of Ghana. It also had the College of Special Education at Akwapim-Mampong; the Advanced Technical Training College at Kumasi; and the St. Andrews Agricultural Training College, Mampong-Ashanti. The University now has four satellite campuses comprising Winneba, Kumasi, Mampong and Ajumako. Currently, there were a total of 60 visually impaired students at the Winneba campus where programmes of studies are offered for the visually impaired.

The University of Ghana (UG), the premier university and the largest university in Ghana was founded as the University College of the Gold Coast by Ordinance on August 11, 1948 for the purpose of providing and promoting university education, learning and research. The student population is over 38,000 made up of students enrolled on regular programmes, sandwich programmes, and distance education as well as students from affiliate institutions. The population of visually impaired students in University of Ghana is 26 (UG, 2017).

**Table 1.0** *Summary of Visually Impaired Students in the three Public Universities*

| University | Male | Female | Total |
|------------|------|--------|-------|
| UCC | 21 | 9 | 30 |
| UEW | 46 | 14 | 60 |
| UG | 21 | 5 | 26 |
| **TOTAL** | **88** | **28** | **116** |

## Literature Review

The right of the visually impaired to have access to education and information, just like any other member of society, is adequately captured in many policies, legislation and international agreements. However, one area that seems to be lacking is information accessibility. According to Gerstenberger (1985) information accessibility for the blind has always been and would continue to be a topic of immense interest in library research and practice. He further states that one of the most important factors that face the academic progress and well being is the reading materials. For a child to develop into a mature, informed, and literate adult he or she must have access to ideas, facts, theories, attitudes, and vicarious emotional experiences. While the written word perhaps has been neglected somewhat in recent years in favor of other media like the television, movies, video games, etc. an understanding of and the ability to use language still signifies and is part of mature intelligence. Therefore, blind persons especially blind children, need access to reading material. To a blind person, library service is a critical-often the only-source of reading material. While a sighted person has not only his or her public library but the local book store, news-stands, the dentist's waiting room, and book clubs, to supply him or her with reading material, a blind person cannot expect to get recorded or Braille literature from these sources (Gerstenberger, 1985). As such the libraries are the only sources of recorded or Braille literature for the visually impaired.

Libraries over the decades have strived to provide humanised, convenient and remote services for the visually impaired. It is very important for visually impaired persons to acquire education and knowledge, but how to provide efficient knowledge and information services for them has always been the bottleneck for most libraries. It is worthy of note that libraries as service organisations mandated by the ethics of their profession render equal services to members of their communities irrespective of their physical or psychological limitations. As more people with disabilities attend higher institutions, it is incumbent upon library management to provide the same level of service to the disabled as is provided to users without disabilities (Ekwelem, 2013).

According to Willoughby (1990) library collection for the visually impaired must correspond with the manner in which the blind student reads and that curriculum-oriented Braille books must form the basis for the collection, augmented by large print and "regular" print books. In view of

this, most libraries maintain and dispense the same kinds of hardware usually found in school library media centers such as record players, tape players, film strip projectors, overhead projectors, and film projectors (Harris & Oppenheim, 2003). The record players and tape players both have adapters for blind people. In most academic libraries many titles are found in the library in both print and Braille so that teachers with students who are totally blind as well as students with some usable vision may require both to read the same book.  Some libraries provide books on audiotape cassettes and records. However, these so-called "talking books" are not popular with the students and are being phased out of production in favor of the easy-to-carry and easy-to-operate audiotape and CDs (Willoughby, 1990).

It's also worthy of note that the physical environment of the library is also paramount to the access of library services by the visually impaired. Hopkins (2000) stressed the importance of design features such as using contrasting colour schemes for the walls, floors and furniture to design an environment as paramount to the effective and efficient patronage of library services for the visually impaired. However, in most libraries, this is constrained by inadequate financial support that would be helpful to visually impaired persons (VIP). According to MacDonald (2000) financial constraints is understandably the greatest impairment to the changing of the physical appearance of a library for the benefit of the disabled. This assertion was strongly opined by Wei, Lirong, Li and Zhao (2012) who investigated the provision of library resources for visually impaired students in England, Scotland and Wales and their awareness of the Special Educational Needs and Disability Act 2001. It was found that the Act had affected each library differently. Some were better equipped to implement the requirements of the Act due to the resources already in place, the positive attitudes of senior management encouraging advancements in this area and previous experience in assisting visually impaired students. Other libraries had more work to do and concerns surrounding training and funding were raised as possible problems that could prevent the successful implementation of the Act.

 The traditional role of libraries has been to provide information resources to their user community. The libraries are thus committed to ensure full access to their range of services and facilities to one and all; and also to accommodate individuals with disabilities within their physical space. Edward and Lewis (1998), assert that "accessing the printed word has long been recognised as a significant barrier of integration of visually impaired individuals into school and environment." This study looks at library services generally available for visually impaired against what is available at the three public universities under study to determine whether they are adequate to accommodate the visually impaired.

According to Michell (1996) "the ideal library service is one where each individual, regardless of the degree of visual impairment, has access to the materials and information at the time they are required, in a format that can be used, in the quantities that are needed, and where the needs of the user are understood by the staff." According to the literature, blind people and those visually

impaired traditionally read Braille, tape Audio-Books and large print books produced and provided by specialized libraries for the blind. New technologies, according to the literature, have opened up new areas of reading, participations and activities for people with disabilities that were inaccessible only a few years ago.

Blindness and sight impairment are very common disabilities world-wide. In 1996 the Royal Society estimated that 300,000 people in Australia had difficulties to read print, even when wearing glasses. Blake (1998) indicated that of approximately one million people who are registered as blind or partially blind in the United Kingdom, nine out of ten are over 60 years. According to the literature, there is considerable emphasis on the role that information plays in the lives of the disabled; however, the literature maintains that information is not easily accessed by a large number of people with disability. In the words of Edward and Lewis (1998), "accessing printed materials has long been recognised as a significant barrier of integration of visually impaired individuals into school and work environments".

Libraries have a traditional role in providing full access to services and facilities to one and all, including individuals with disabilities within the libraries' physical spaces. Friends (2009), cited in Eskay and Chima, (2013), opined that less than 5% of information materials available to sighted library patrons are accessible to the visually impaired. The literature maintains that the same can be said of the deaf and other students with different forms of disabilities; and it is therefore the moral duty of libraries and librarians to make sure that they provide information materials in all formats to all categories of their users.

Michell (1996), is of the view that "the ideal library service is one where each individual, regardless of the degree of visual impairment, has access to the materials and information at the time they are required, in a format that can be used, in the quantities that are needed, and where the needs of the user are understood by the staff". According to Fullmer and Majunder (1991), "the ability to obtain and use information about any subject gives a person the opportunity to choose a path from many alternatives instead of being limited to a few perhaps unwanted and infeasible choices".

Disabled persons including visually impaired students grapple with challenges in their attempt to access library facilities and information resources in their academic pursuit. Notable among these challenges are social discrimination and cultural bias. It is a well known fact that, the library facilities in some public libraries, including public academic institutions were constructed with very little or no attention or consideration to the needs of handicapped persons, including visually impaired students, and thus limit their access to information in libraries which ultimately affect their information seeking behavior. Information behaviour is those activities a person may engage in when identifying his or her own needs for information searching for such information in any way, and using or transferring that information (Wilson, 2000).

Blind people and those visually impaired traditionally read Braille, Tape Audio-books and large print books produced and printed by specialized libraries for the blind. Today, visually impaired can access computer programmes, Internet and digital resources using electronic aids; Assistive or Adaptive Technology such as Braille displays, screen magnifying monitors, screen magnifications, scanning software with OCR, screen readers and synthesis.

According to Kapoor (2012) assistive technology has revolutionised the lives of visually impaired persons in many countries giving them equal access to services and public places. According to the literature, not only has it given access to computers and all its advantages but also has led to the advance of several special devices which together have gone a long way in overcoming the difficulties faced by the visually impaired. The literature adds that in the case of the visually impaired, it is often the use of assistive technology that ensures their equal participation in many social activities ranging from meetings and entertainment to the more personal activities of reading books, accessing information or enjoying recreational activities.

## Methodology

The study adopted both qualitative and quantitative research methodologies. The descriptive survey design was adopted for the quantitative aspect of the study whiles case study research design was used for the qualitative aspect of the study. The descriptive survey design was adopted because of its ability to provide accurate descriptions of real life situations (Gay & Airasain, 2000). The qualitative case study approach is a means of conducting an empirical investigation of a contemporary phenomenon within its natural context using multiple sources of evidence (Yin, 2003 cited by Hancock & Algozzine, 2016).

The population of the study consisted of the visually impaired students, Presidents of the Visually Impaired Students Association of Ghana and Head Librarians from the three selected public universities, namely University of Cape Coast (UCC), University of Ghana (UG) and University of Education, Winneba (UEW). In all, a total of 119 respondents were involved in the study, comprising 116 visually impaired students and the three (3) head librarians of the selected public universities. The head librarians were selected because they have direct contact with the issues concerning students with visual impairment. Finally, Presidents of the Visually Impaired Students Associations on each campus were targeted because they will be able to provide collective information about their colleague students and their challenges.

The main instruments for data collection were the questionnaires and a semi-structured interview. Questionnaire was chosen as the main data collection instrument because it is very effective for securing factual information about practices and conditions of which the respondents are presumed to have knowledge and for enquiring into opinions and attitudes of the subjects. Another reason for choosing the questionnaire was that it is easy to fill and takes little time as compared to other instruments like the interview. The questionnaires were converted into

brails using a 4x4 Pro Braille Embosser. With the help of field assistants the brailed questionnaire were distributed to the visually impaired students. Their responses were latter transcribed into normal text and analysed using the Statistical Package for Social Sciences (SPSS) software, version 21.0.

The interview was conducted with the head librarians from the three selected public universities. Interviews were conducted using prepared semi-structured interview schedule. The interviews were recorded using an Olympus VN-2100PC digital voice recorder. The researchers also took notes during the interviews. The data from the interview was organised into appropriate themes and analysed accordingly.

## Data analysis and findings

**Demographic Characteristics of Respondents**

.**Table 2: Demographic Characteristics of Respondents**

| | U.C.C | | U.E.W | | UG | | Total | |
|---|---|---|---|---|---|---|---|---|
| **Gender** | Freq | % | Freq | % | Freq | % | Freq | % |
| Male | 21 | 18.1 | 46 | 39.6 | 21 | 18.1 | 88 | 75.8 |
| Female | 9 | 7.8 | 14 | 12.1 | 5 | 4.3 | 28 | 24.2 |
| **Total** | 30 | 25.9 | 60 | 51.7 | 26 | 22.4 | 116 | 100.0 |
| **Programme** | | | | | | | | |
| B.Ed | 29 | 25.0 | 57 | 49.0 | 0 | 0.0 | 86 | 74 |
| B.A Social studies | 0 | 0.0 | 3 | 2.6 | 0 | 0.0 | 3 | 2.6 |
| Political science | 0 | 0.0 | 0 | 0.0 | 14 | 12.1 | 14 | 12.1 |
| Social work | 0 | 0.0 | 0 | 0.0 | 6 | 5.2 | 6 | 5.2 |
| Sociology | 0 | 0.0 | 0 | 0.0 | 3 | 2.6 | 3 | 2.6 |
| Psychology | 0 | 0.0 | 0 | 0.0 | 3 | 2.6 | 3 | 2.6 |
| M'Phil. (Education) | 1 | 0.9 | 0 | 0.0 | 0 | 0.0 | 1 | 0.9 |
| **Total** | 30 | 25.9 | 60 | 51.6 | 26 | 22.5 | 116 | 100.0 |
| **Level** | | | | | | | | |
| 100 | 3 | 2.6 | 31 | 26.7 | 6 | 5.2 | 40 | 34.5 |
| 200 | 10 | 8.6 | 13 | 11.2 | 9 | 7.7 | 32 | 27.6 |
| 300 | 8 | 6.9 | 7 | 6.0 | 8 | 6.9 | 23 | 19.8 |
| 400 | 8 | 6.9 | 9 | 7.8 | 3 | 2.6 | 20 | 17.2 |

| | 1 | 0.9 | 0 | 0.0 | 0 | 0.0 | 1 | 0.9 |
|---|---|---|---|---|---|---|---|---|
| 600 | | | | | | | | |
| **Total** | 30 | 25.9 | 60 | 51.7 | 26 | 22.4 | 116 | 100.0 |
| **Residential Status** | | | | | | | | |
| Residential | 29 | | 44 | | 26 | | 99 | |
| Non- Residential | 1 | | 16 | | 0 | | 17 | |
| **Total** | 30 | | 60 | | 26 | | 116 | |

Table 2 shows that there were 116 respondents made up of 30, 60 and 26 respondents from UCC, UEW and UG respectively. Of the 116 respondents 100 (86.2%) were males and 16 (13.8%) were females. In other words, there were more males than females in the study sample. This is a reflection of what pertains in most tertiary institutions where male dominance is common in almost every field. It also reflects the public universities in Ghana's admission policies which commit the universities not to discriminate in admitting persons with disability, including VIS, but are also to a large extent consistent with the United Nations (2016) position on education as a fundamental human right for all people.

Table 2 also shows that majority of the respondents 86(74.0%) were studying Bachelor of Education whiles 3(2.60%) of the respondent were studying sociology. It can be observed that the respondents were pursing Arts related programmes. This can be attributed to the numerous challenges that confront visual impaired students who would like to take up the sciences. About, 99 (85.3%) across the three universities claimed they resided in the traditional halls of residence while 17 (14.7%) reported that they did not live in any of the traditional halls of residents. With respect to the universities, 29 (96.7%) of the students from UCC had on-campus residential status, UEW, 44 (73.3%) and UG, 26 (100%) also had on-campus residential status.

**Library services available to the visually impaired**

A follow up question solicited information on the kinds of library services available to respondents in the public universities. This was a multiple response question and respondents were allowed to indicate as many services as they know available. Table 3 indicates the kinds of library services available to respondents.

**Table 3: Kinds of Library Services Available to Visually Impaired Students**

| | U.C.C | | U.E.W | | UG | | Total | |
|---|---|---|---|---|---|---|---|---|
| Kinds of library services | Freq | % | Freq | % | Freq | % | Freq | % |
| Computer Literacy | 8 | 10.0 | 1 | 1.3 | 15 | 18.8 | 24 | 30.0 |
| Braille Documentation | 6 | 7.5 | 9 | 11.3 | 25 | 31.3 | 40 | 50.0 |
| Assistive Technology | 5 | 6.3 | 0 | 0.0 | 1 | 1.3 | 6 | 7.5 |
| Technical Assistance | 2 | 2.5 | 0 | 0.0 | 3 | 3.8 | 5 | 6.3 |

| | Freq | % | Freq | % | Freq | % | Freq | % |
|---|---|---|---|---|---|---|---|---|
| Collection of Examination Scripts | 1 | 1.3 | 0 | 0.0 | 0 | 0.0 | 1 | 1.3 |
| Information Search | 0 | 0.0 | 2 | 2.5 | 2 | 2.5 | 4 | 5.0 |

Freq= 80(Multiple response)

The results in Table 3 suggest that the kinds of library services which were popular or well known to be available to respondents in public universities in Ghana included Braille Documentation, 40 (50.0%), Computer Literacy, 24 (30.0%), Assistive Technology, 6 (7.5%), Technical Assistance, 5 (6.3%), Information Search 4, (5.0%) and Collection of Examination Scripts 1, (1.3%) in that order.

*Library Services Accessed by Respondents*

Respondents were asked the kind of library services they accessed for academic work (Multiple responses were allowed) and Table 4.6 shows the services mentioned.  Most of their responses were 27 (25.5%) for Traditional Library Services, 26 (24.5%) for Computer Literacy and 27 (25.5%) for ICT Centre Services. Traditional Library Services were frequently mentioned by the respondents of UCC, 12 (11.3%) than respondents from UEW 9 (8.5%) and UG 6 (5.7%), while Computer Literacy Services were common among respondents of UG 13 (12.3%), and UCC 11 (10.4%) than UEW 2 (1.9%). With respect to ICT Centre Service, this was most frequently indicated by the respondents from UG 14 (13.2%) followed by UEW 9 (8.5%) than   UCC 4 (3.8%). Resource Persons, Writing of Quizzes/Assignments/Examinations, Assistive Technology and Embossing of Work were services which were least mentioned by the respondents across the three universities. For "Traditional Library Services", "Computer Literacy" and "ICT Centre Services to be frequently mentioned is an indication of how important these services are to the respondents.

**Table 4: Kind of Library Service(s) Respondents Accessed**

| | U.C.C | | U.E.W | | UG | | Total | |
|---|---|---|---|---|---|---|---|---|
| Kind of Library Service(s) | Freq | % | Freq | % | Freq | % | Freq | % |
| Traditional Library services | 12 | 11.3 | 9 | 8.5 | 6 | 5.7 | 27 | 25.5 |
| Computer Literacy | 11 | 10.4 | 2 | 1.9 | 13 | 12.3 | 26 | 24.5 |
| Services by Resource Persons | 7 | 6.6 | 2 | 1.9 | 6 | 5.7 | 15 | 14.2 |
| ICT Centre Services | 4 | 3.8 | 9 | 8.5 | 14 | 13.2 | 27 | 25.5 |
| Writing of Quizzes/Assignments/Examinations | 3 | 2.8 | 1 | 0.9 | 0 | 0.0 | 4 | 3.8 |
| Embossing of Work | 1 | 0.9 | 1 | 0.9 | 1 | 0.9 | 3 | 2.8 |
| Assistive technology | 1 | 0.9 | 0 | 0.0 | 3 | 2.8 | 4 | 3.8 |

*Freq = 106 (Multiple response)*

Overall, 58 (50.0%) of the respondents across the three universities used the library for academic work while 58 (50.0%) did not use the library for academic work. A further question to find out why some respondents did not use the library for academic work revealed that most of the selected libraries were not disability friendly and lack technical services or support for the visually impaired. This clearly calls massive investments in the redesigning of library spaces, washrooms and entrances in order to make them disability friendly.

**Adequacy of Library Service Provision to Respondents**

This study also sought to evaluate the adequacy of the provision of library services for the visually impaired hence the research question which sets out to find the adequacy of library services provision by the public university libraries for the visually impaired. Respondents were asked to evaluate the kind of library services the University Library provides for the Visually Impaired Students. Table 5 reveals that majority 76 (65.5%) of the respondents were of the view that the kind of library services the university libraries provided for the respondents were inadequate while 14 (12.1%) were of the opinion that the kind of library services the university Libraries provide for the respondents were fairly adequate.

Across the three universities, Table 5 clearly shows that a greater percentage, 57 (49.1%) of the respondents from UEW evaluated the kind of library services the university library provided for the respondents as inadequate, while 14 (12.1%) and 5 (4.3%) of the respondents from UCC and UG respectively were of the opinion that the kind of library services the university libraries provided for the respondents were inadequate. However, respondents from UG, 15 (12.9%) and UCC, 7 (6.0%) did share the same opinion that the kind of library services their respective university libraries provided for the respondents were adequate. This suggests that differences exist in terms of adequacy of the kind of library services the university libraries provide for the respondents across the two universities.

**Table 5: Adequacy of library services**

|  | U.C.C | | U.E.W | | UG | | Total | |
|---|---|---|---|---|---|---|---|---|
| Adequacy | Freq | % | Freq | % | Freq | % | Freq | % |
| Highly adequate | 1 | 0.9 | 0 | 0.0 | 3 | 2.6 | 4 | 3.4 |
| Adequate | 7 | 6.0 | 0 | 0.0 | 15 | 12.9 | 22 | 19.0 |
| Fairly adequate | 8 | 6.9 | 3 | 2.6 | 3 | 2.6 | 14 | 12.1 |
| Inadequate | 14 | 12.1 | 57 | 49.1 | 5 | 4.3 | 76 | 65.5 |
| **Total** | 30 | 25.9 | 60 | 51.7 | 26 | 22.4 | 116 | 100.0 |

**Preferred Format of Materials/Equipment/Services**

In investigation library services for the visually impaired students, this sought to find out from the visually impaired students their preferred format for library resources. This study goes further to rank these library resources based on the weighting placed on them by the respondents.

Respondents were asked to list materials/equipment which they think every public university library should have in order to adequately meet the information needs of the visually impaired. Table 6 presents seven materials/equipments that respondents felt every public university library should provide for its respondents to meet their information needs and also offer the respondents most convenient usage. As might be expected, the most frequently cited facility that the respondents believed public university libraries should possess was Internet facilities 44 (30.8%). This was followed by a big ICT laboratory 31 (21.7%) and Braille materials/sheets 23 (16.1%). These findings were consistent with expected materials that every public university should posses for its respondents.

**Table 6: Equipment/Materials for the Visually impaired**

|  | U.C.C | | U.E.W | | UG | | Total | |
|---|---|---|---|---|---|---|---|---|
| Materials/Equipment | Freq | % | Freq | % | Freq | % | Freq | % |
| Braille materials(sheets) | 4 | 2.8 | 6 | 4.2 | 13 | 9.1 | 23 | 16.1 |
| Internet facilities | 6 | 4.2 | 38 | 26.6 | 0 | 0.0 | 44 | 30.8 |
| A big ICT lab for effective training | 8 | 5.6 | 5 | 3.5 | 18 | 12.6 | 31 | 21.7 |
| Brailing of documents | 3 | 2.1 | 4 | 2.8 | 1 | 0.7 | 8 | 5.6 |
| Computers | 2 | 1.4 | 1 | 0.7 | 0 | 0.0 | 3 | 2.1 |
| Digital recorders | 8 | 5.6 | 0 | 0.0 | 0 | 0.0 | 8 | 5.6 |
| Magnifiers | 0 | 0.0 | 1 | 0.7 | 0 | 0.0 | 1 | 0.7 |
| No response/no idea/don't know | 7 | 4.9 | 15 | 10.5 | 3 | 2.1 | 25 | 17.5 |

Freq = 143 (Multiple response)

With respect to the materials/equipment available at university libraries in aid of accessing information from the universities, respondents from UCC frequently mentioned a big ICT lab for effective training and digital recorders and internet facilities in that order among others but never mentioned magnifiers. On the part of UEW, Internet facilities was frequently mentioned compared with the other material/equipments but never talked about digital decoders while a big ICT lab for effective training and Braille materials (sheets) were mentioned most by respondents from UG compared with the other materials, they never mentioned Internet facilities, computers and magnifiers. In effect, the provision of materials/equipment by public university libraries for their respondents to meet their information needs did not necessarily cut across all the universities; some materials/equipment were common to at least any two of the universities

while others were not. This means that as far as the provision of materials/equipments were concerned respondents in one university, for example, would be at a disadvantage and this could affect their information needs.

**Ranking of Materials/Equipment**

With regard to ranking of material/equipments, respondents were asked to rank in order of preference the materials that their University library provides to meet their information needs. Table 7 presents the ranking for six materials in order of preference. The materials which received the highest rankings in order of preference include a big ICT laboratory for effective training, Internet facilities and digital recorders in that order. These materials represent the traditional materials that are generally expected of every university library to provide for its students including the respondents to meet their information needs. The materials which received the lowest rankings in order of preference or concern were; Braille materials (sheets)/equipment, computers and magnifiers.

**Table 7: Rank order of Materials/Equipment**

| Materials that offer most convenient usage | Rank |
|---|---|
| A big ICT lab for effective training | 1 |
| Internet facilities | 2 |
| Digital recorders | 3 |
| Braille materials(sheets)/equipment | 4 |
| Computers | 5 |
| Magnifiers | 6 |

**Challenges**

The study also sought to examine the challenges librarians faced in responding to the needs of visually impaired students. The head librarians of the three public university libraries under study were the main source from whom information was collected by the researcher through separate face-to-face structured interviews held with them. At the end of the interviews four challenges were mentioned by the librarians to include finance, infrastructure, resource persons and assistive technologies. They cited finance as the greatest challenge facing the libraries in providing library services to the visually impaired students. The submissions of the three librarians to the effect that finance was their greatest challenge was found to lend support to the views shared by Hopkins (2002) which state that in most libraries library provision of library services to the visually impaired is constrained by inadequate financial support that would be helpful to visually impaired persons. Again, their submission can be related to MacDonald's (1996) assertion that

financial constraints is understandably the greatest impairment to the changing of the physical appearance of a library for the benefit of the disabled.

**Discussion and conclusion**

The first objective sought to examine the kinds of library services available for VIS in the public universities. The study found that 70 (60.3%) of the VIS did not know the kind of library services available for the Visually Impaired Students in their respective universities. The high percentage of respondents who said they did not know the kind of services available, particularly those from UEW is an indication of low awareness creation among VIS in that university and this has the tendency of depriving them of the benefits of the use of library services for their academic work. The implication is that because they were not aware of the existence of these services, they may not visit the library when they require such services.

This can largely be attributed to the nature of library orientation offered to the visually impaired. In most Ghanaian universities, the visually impaired is oriented together with the sighted students. This practice disadvantages the VIS as they require additional time and skill to fully understand what is been taught. Therefore, the need for tailor-made orientation for the VIS. Such orientation programmes must among other things introduce them to the physical environment of the library; both outside the library structure and within the library space with the aim of initiating them to the kind of library services and resources available as well as directional signs that will help them navigate their way in the library. In the words of Hopkins (2000) it is worthy of note that the physical environment of the library is also paramount to the access of library services by the visually impaired. He stressed the importance of design features such as using contrasting colour schemes for the walls, floor and furniture to design an environment as being paramount to the effective and efficient patronage of library services for the visually impaired.

Majority, 76 (65.5%) of the VIS reported that the kind of library services university libraries provided to the visually impaired students are inadequate. This was more talked about by VIS in UEW when compared to VIS from UCC and UG. Response from an interview held with the Librarian at UEW lent support to the views expressed by the VIS at UEW. When asked about the kind of services UEW library provided to the VIS, the Librarian had this to say:

*Apart from the traditional library services of lending and photocopying services that the library provides to the VIS, the library does not offer any special service to the VIS. However, the university appreciates the need for the library to provide special library service to meet the needs of the VIS and because of this, the university has initiated necessary action to acquire the needed materials; including assistive technology equipment for the university library and that, the Procurement office of the university was working on it and the equipment/materials would be ready by June next academic year* (i.e 2017).

To support the need for assistive technology equipment for use by VIS, Kapoor (2012) has observed that assistive technology has revolutionized the lives of visually impaired persons in many countries giving them equal access to services in public places. According to him not only has it given access to computers and all its advantages but also has led to the advancement of several special devices which together have gone a long way in overcoming the difficulties faced by the visually impaired. Therefore, the demand for assistive technology equipment as suggested by VIS cannot be overemphasized.

The study sought the views of the VIS on the kind of format in terms of materials, services and equipment they preferred the public university libraries to provide. In the words of the President of the VIS Association of UCC, *"VIS prefer more Braille embossers to aid in faster provision of Braille notes"*.

As regard facilities and modification to be made in the libraries, out of 10 facilities listed, 3 were frequently mentioned and these are: computers with JAWs software, new embossers and quality digital recorders. While other materials that require modification but were least cited are: provision of Braille materials for notes/handouts, conversion of hardcopies to softcopies and embossment of Braille books. The rest include new embossers, screen modifiers, assistive technology and internet facilities. The findings from this study lend support to Michelle's (1996) assertion that "the ideal library service is one where each individual, regardless of the degree of visual impairment, has access to the materials and information at the time they are required, in a format that can be used, in the quantities that are needed, and where the needs of the user are understood by the staff". Again, as the President of the VIS Association puts it; *Reference materials should be in Braille so that members can have access to utilise them.* However, the study revealed that the libraries are increasingly been queried by the Finance Directorates for the procurement of digital recorders for the visually impaired students at a cost to the university. Also the establishment of Office for Disability Services in some universities led to some friction between the library and the disability office as there were  no clear guidelines on which establishment was  responsible for providing library equipments and materials to visually impaired students. There is therefore, need for university managements to realize that the creation of these offices for Disabled Services is to compliment the work of the library to provide effective and efficient library service to the disabled.


Service of Resource Persons, according to Morsink (1984), is the pivot around which mainstream education revolves. Regrettably the study found that one of the challenges facing the libraries in providing library services to the visually impaired was Resource Persons. The study revealed that with UEW the library did not have any Resource Persons at the library. Because the necessary assistive technology equipment and materials were not in place, the library had no Resource Persons to provide service to the visually impaired students. UCC and UG libraries had Resource Persons but they are not under the administration of their respective library

management. They are under the administrative control of the central administration of their respective universities. The working hours of staff under the central administration is from 8am-5pm, whiles library staff of the two universities work from 8am to 10pm. Resource Persons assigned by the central administration to the libraries therefore close at 5pm. In the case of UG library when the Resource Persons close at 5pm the library is compelled to close the Visually Impaired Section of the library while the remaining Sections of the library for able-bodied students remained opened till 10pm. This does not promote inclusive education and it is found to be in contrast to the view shared by Gwala (2006); that "inclusive education is concerned with removing all barriers to learning, and with the participation of all learners vulnerable to exclusion and marginalization".

In the case of UCC library, the study found that when the Resource Persons close at 5pm the library administration has put in place measures for Library Assistants to fill the gap and provide library services to the visually impaired to prevent the Resource Centre for the visually impaired from closing until 10pm when the library closes to all library users. The challenge that UCC and UG libraries face when it comes to Resource Persons is an institutional one and the visually impaired students, particularly those at UG, cannot continue to suffer in silence under exclusive education where the library is closed to them for reasons of differences in working hours between the library and the central administration, while their able bodied colleagues enjoy the services from the same library.

**Recommendation**

1. Library management must organize special library orientation for visually impaired. This orientation can take the form of seminar or workshops and must be geared towards educating participants on the services rendered to persons with disability.

2. The Library management of UG library must laissie with central administration to ensure that the resource centre is opened throughout working hours of the library.

3. The management of UEW library must invest more in training of resource persons to manage their visually impaired units.

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