

Provision of Information Services to the Visually Impaired Students at Thika School for the Blind

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Abstract

Provision of information services is central to learning and instructional process in schools including those of the visually impaired students. However, in most cases subject materials and learning activities are designed with normal sighted in mind. Whilst educators have vastly improved teaching techniques and facilities, it is still a problem that visually impaired students experience difficulties accessing the ordinary curriculum and has been worsened by the use of technology. The study was informed by the Moore's Model of Social Needs and Wilson's Model of Information Behaviour. The study was conducted using a case research and mainly used qualitatively and quantitatively approaches. Data was collected using interview schedules, the focus group guide and documentary review. The study establishes that provision of information to visually impaired students require improvement. The study concluded that authority and information providers in this area take recognition of visually information needs and channels of accessing information. The study's recommends improvement of the existing information services, system and channel of disseminating information to visually impaired to serve them without discrimination.

Keyword: visual impaired, information, provision, students, Kenya.

1.0. Introduction

The ability to access and use information on any subject gives an individual the opportunity to choose a path from many alternatives instead of being limited to a few perhaps unwanted or unfeasible choices (Fullmer & Majumder, 1991). Nevertheless, little is known about the broad spectrum of information needs for everyday life of people with disabilities. Roth (1991) states that the information needs of individuals with disabilities are likely to include, but not be limited to service information, the nature of handicapping conditions, environmental accessibility, civil rights, financial assistance and advice, research and statistics, and service delivery models. Individuals use all sensory organs to acquire information however, the sense of sight is most important. It has been estimated that human beings absorb as much as 80 per cent of information about their immediate environment by means of sight (Willetts, 1997). The visually impaired are thus, at greatest risk of being socially excluded as a result of limited access to information which has substantial long-term effects on a person's ability to carry out usual activities (Raymond, 2003).

1.1. Background to the Study

Information is recognized as a vital commodity. It is undoubtedly and increasingly being recognized as a vital resource. Crawford (1978) was right when he described information as the fifth basic need of human beings ranking after air, water, food and shelter. The importance of information sought varies from person and discipline. Therefore information seeking behaviour depends upon a person's level of education, age, subject background and nature of their job, urgency of information and availability of sources (Singh, 2009).

Visually Impaired Students in Kenya

In the Kamunge Report (1988), the Government of Kenya (GOK) recognize the equal existence of persons with disabilities among its citizenry. The Koech report (1999) gives attention to this by highlighting special education needs. The GOK has not established any National Library for the blind. However, a Braille and Large Print Section which was established in 2000 at Kenya National Library Services (KNLS) are found only at the library's headquarters in Nairobi, no daily newspapers published in Kenya can be read by the visually impaired. Some of the institutions established to aid the physically challenged operate independently and also book production institution each operate independently (Person with Disability Bill, 2002).

According to Ochoggia (2003), library and information services for the visually handicapped students in Kenyatta University, a public university has largest number of visually impaired students, inadequate materials and staff lack the necessary skills to serve the visually impaired students. Muya (1990) asserts that the current state of library and information services for visually handicapped in Kenya is a sad story to tell due to lack of adequate funding.

Categories of Visually Impaired in Kenya

Heiman (2004) in International Journal of Special Education records that in Kenya, the Low Vision Project, groups students with visual impairments into five categories. The first four of these are based on the working definition of the World Health Organization based on the need to create a category for children attending special schools and programs for children who do not have a severe visual and do not require special education as long as their sight is constant (Verweyen, 2004).

Information Providers

Information professional have a moral obligation to make information available to all categories of users. (Winnie, 1994). Among this disadvantaged group are the visually impaired. Inaccessible information is a major barrier facing blind and partially sighted people. According to the World Health Organization (WHO, 2009) statistics, there are about 314 million visually impaired people globally with 45 million totally blind. Of these, 87% live in developing countries. Although visually impaired people cannot read the conventional print, they have the right to access information. That is, the right to read information in formats that are accessible to them. Friend (2009) stated that less than 5% of the information materials available to sighted library users are accessible to the visually impaired.

Challenges in providing information services to the visually impaired

The visually disadvantaged are likely not to participate as actively as they should in the development of a Community, owing this largely to their limited access to information. The products which could guarantee their access are scarcely available and very specialized. This is a contrast to the availability of a wide range of systems developed for the sighted population. The information needs of individuals with disabilities are likely to include, but not limited to service information, the nature of handicapping conditions, environmental accessibility, civil rights, financial assistance and advice, research and statistics, and service delivery models. "Recreation", includes listening to talking books supplied by organizations for the blind and sight impaired, is very important. There is need to provide appropriate information facilities, materials, equipment and a cadre of trained teachers, professional and support staff to address their needs at all levels. Therefore the situation draws the researcher to carry out a study that investigates the provision of information to the visually impaired with an aim of providing solution to access information. This is likely to achieve a state of equal opportunity for the visually disabled in accessing information as inferred by the Kenya Vision 2030, thus producing an informed society without partiality.

1.2. Statement of the problem

In the Kenyan educational institutions every student has the right to access libraries, to attend lectures and to participate in class activities as part of their basic right. However, in most cases, subject materials and learning activities are designed with normal-sighted people in mind. Whilst educators have vastly improved teaching techniques and facilities, it is still a problem that visually impaired students experience difficulties accessing the ordinary curriculum.

A visually impaired individual, who cannot read Braille, usually has access to print material by traditionally using a mediator like, a family member, a friend, a designated helper, or an organization. Apart from assisted access to print material, the visually impaired have employed the use of radio, audio cassettes and telephones to gain access to information. Braille is only used among those who have been blind from a young age, nonetheless, a large proportion of the visually impaired lost their sight ability at a later stage in life, thus, their inability to use Braille as a means to access information and as a common form of communication (Williamson, *et al*, 2000). There are a very limited number of items and formats which are accessible for use by the visually impaired. It is not a guarantee that the available converters such as scanners, reading machines, embossers and tape recorders, convert text to be permanently recorded in the desired format (Gallimore, 1999; Long, 1993; Porter, 1997). They occasional lack skilled and qualified staff members who would recognize the implications of visual impairment and the complexity of its impact. (Long, 1993).

Libraries have low levels of understanding information needs and the information seeking behaviours of visually impaired, illegible print formats, lack of assistive technology equipment and very minimal assistance in using audio devices. The challenge of providing equitable library and information services to the visually impaired requires the cooperation of all stakeholders. Williamson, Schauder and Bow (2000) state that people who are blind and sight impaired deserve to be provided with a range of ways of meeting information needs, as are available for people with normal sight so as to equitably participate in the information economy.

1.3. Aim of the Study

The aim of the study was to investigate the provision of information services to the visually impaired students at Thika School for the Blind, and to propose strategies for improvement.

1.4. Objectives of the Study

The objectives of the study were to:

- i. Establish information needs for the visually impaired students
- ii. Identify information sources that the students consult when seeking information
- iii. Determine the types of special skills required to access information
- iv. Identify different activities undertaken by visually impaired students while seeking for information.
- v. Establish challenges faced by visually impaired persons while seeking information.
- vi. Propose strategies to improve information access by the visually handicapped.

1.5. Research Questions

To achieve the stated objectives, the following research questions were addressed:

- i. What are the information needs of the visually impaired students in Thika School for the Blind?
- ii. What information sources do they consult when seeking information?
- iii. Which type of special learning skills do they require to access information?
- iv. How does the visually impaired student access need information?
- v. What are the challenges faced by visually impaired persons while seeking information?
- vi. What strategies are required to improve information access by visually handicapped students at Thika School for the blind?

1.1. Assumption of the study

1. The provision and access of information to visually impaired student in special schools in Kenya have been neglected.
2. Empirical findings of the study will help to enhance the provision of information to visually impaired student.

1.2. Significance of the Study

The study constitutes an addition to the existing body of knowledge on provision of information services to the visually impaired student. It will act as guide for policy formulation in provision of information and help to sensitize the government and other policy makers to establish information system that can address the issues of information provision of the visually challenged students. Finally practical solution to the challenges of services and use of information by visually impaired students in special schools in Kenya.

2.0. Literature Review

This chapter reviews related literature and provides a broader picture of information provision with emphasis on visually impaired people.

2.1. Needs of visually impaired students

Visually impaired students are investigated in assessment needs of vision status, nature and extent of the student's ability to use computers and other assistive technology to anticipate in the general curriculum. (Verweyen, 2004). They require skills to use of cassette recordings; recordings utilize compressed speech, personal computers, and optical scanners with speech output (Sorenson, 1999).

Orientation and mobility create an awareness of the environment in which they live and learn through trained and knowledgeable personnel. Educational instruction and learning needs is crucial in determining degree of vision loss of a visually impaired student the medium of reading and writing. Students who are blind and others have light perception will only use the tactile mode as their medium of reading and writing using Braille and they require communication devices such as slate and stylus, tape recorder, typewriters and computers. (UNESCO, 1995)

2.2. Information source

Singh (2009) asserts that information sources differ from user to user according to their convenience and availability of information sources. They are classified into Print and Non-print formats. Large print materials are very useful to partially sighted people which is both fiction and non-fiction titles (Deaton, 1993). Non-print materials are also used by the visually impaired persons, they includes; Audio visual, Cassettes and tapes recorders, Talking books, Internet, Telephone, Broadcast media and personal contact among others.

2.3. Special learning skills for the visually impaired

Skills required by visually impaired learners include: mobility skills, reading embossed writings, tough typing, sighted guiding and computer skills. Assistive devices required includes: Optical low vision devices which in most cases are used to provide some form of magnification (Klemz, 1977). Walsh, (2006) states Other daily equipment include writing aids, talking watches/ clocks, medicines dispensers, rain alerts, tactile and tape/compact disc player control (<http://www.chrishigh.com/visual-imp.htm>, accessed on July, 2012).

2.4. Activities undertaken by visually impaired students include:

The impaired students carry out experiments in science subjects such as Physical Science, Chemical Science and biological science, laboratory experiments and demonstration and Math activities. Kumar (2003) asserts that visually impaired people sit for the same exam as the sighted people but for them they are not given drawings and maps interpretation. Instead, they are given extra questions to cover for that section. Their exams are transcribed to Braille for them to do but again translated back to normal writing, mixed with other copies and marked without bias Physical education, fitness, and exercise are important to the well-being of people with visual impairments (Curry and Hatlen, 1987). Fullers and Majumber (1991) notes that blind and partially sighted people participate in outdoor sports and those with residing sight can continue to make use of their sight constructively and those totally blind can perform useful activities around the house and garden such as cooking and cleaning (Pinion, 1990).

2.5. Challenges faced by visually impaired students while seeking information

The visually impaired students face several challenges that make them prone to powerlessness and inability to participate in decision making and development programmes that affect them and their fundamental rights. They includes, Inadequate finances, Inadequate collection, Inadequate Human Resources, Lack of Proper Technology, Difficulty in navigating environment, Social isolation, Access to documents, Professionalism, Copyright Act and National Information Policies

3.0. Research Methodology

The study adopted case study design. The research approach used was qualitative with some aspect of quantitative research technique in the design of data collection instruments. The study population at the time of study was 720. The study targeted a sample size of 97 respondents for study, calculate using Yamane (1967) formula. The study employed probability sampling by stratifying random for students and non-probability sampling purposive methods was used to select the key informants. Data was collected using interviews, focus group and documentary reviews. It applied interview schedule, focus group guide and documentation review. The data collected was organized and analysed thematically.

4.0. Discussion of the Findings

Discussions are represented by research questions

Table 1: Distribution of respondents by categories and students (N = 97)

Categories	Class/key informant	Targeted population	Actual No interviewed	%
Totally blind students	Form 1	11	9	81.8
	Form 2	11	8	72.7
	Form 3	11	6	54.5
	Form 4	11	7	63.6
	Total	44	30	68.2
Partially blind Students	Form 1	11	8	72.7
	Form 2	11	9	81.8
	Form 3	11	8	72.7
	Form 4	11	9	81.8
	Total	44	34	77.2
Total Response		88	64	74.2
Quantitative sample size	64			
Key informants	Humanity teachers	2	1	100
	Social science	2	2	100
	Academic affairs	1	1	100
	Librarian	2	2	100
	Physical science	2	1	50
Interview conducted (qualitative sample size)		9	7	88.9%
Overall response		81.55		

Combining the response rate of both qualitative and quantitative data collection gives a total response rate of 81.55 %. This is a fairly high response rate that is adequate for a research of this magnitude to proceed to analysis stage.

4.1. What are the Information needs of the visually impaired student?

The study showed that priority is given to evaluation need, how to use Braille, assistive devices, orientations and mobility needs.

4.2. Information sources and support equipment

Information materials available are print non print which was outdated, not currents and were inadequate to cater for all students. Braille books were in bulk and they cannot get the complete copy which was difficult to find the next set whereby Sometimes they move the next class without having some part of Braille which has hampered their studies as it was confirmed by the key informants, they stated that the little grants they receive from the government and well wishers is not adequate to purchase enough books for all students.

4.2.1. Support equipment

The study also established that the students have support equipment such as Braille machines, few magnifying glasses and tactile. The Braille machines are however inadequate, broken and contain only a few diagrams for tactile. Worse still, the school has inadequate reading equipment such as embossed Braille machine, Computers, tape recorder, magnifier and sensory aids. One Television and a Radio are inadequate for the whole school.

4.3. Types of special learning skills

The study revealed that the special skills of the students such as mobility 53 (83%), reading embossed writings of Braille 50 (78%), sighted guiding 50 (78%) were carried out immediately one reports to school. However, they were not trained on how to use Vision Aids devices, Sensory Aids and the Internet. The key informants stated that slow paced learners are sent to Machakos School for the blind for further training on the lacking skills to help them become more efficient.

Library Services

The study established that 55 (86%) of the respondents stated that they usually access borrowing services, 47 (73%), they are assisted in reading by sighted students, 44 (69 %) went through library orientation. Most of the reference materials are in print form, they do not have motivational programmes, discussions and club activities. The key informants stated that they have never organised other services for the students.

4.4. Activities Undertaken by the Visually Impaired Students

The study established that all students attend classes, do class work, read, perform class projects, do tests and examinations. However only 34 (53.1%) specifically the partially blind do laboratory experiments and field work. The totally blind student which consisted of 30 respondents (46.9%) stated that they do not do laboratory experiments and field work because they are not able to manipulate the specimens, chemicals and apparatus since they are dangerous to be handled without sight. Field work requires observations which are done through sight and therefore do not participate; this was further emphasized by the key informants that mixing of chemicals by the totally blind is hazardous to them.

4.5.1. Co-curriculum activities

The findings showed that the students do not participate much in outdoor games except athletics. The students' population that participates in athletics is relatively high at 44 (69%). The high participation in athletics according to the students respondent were because they have an adapted field and efficient trainers, this was also emphasized by the key informants. A low participation in playing cards, draught chess, table tennis, cricket and golf as explained by the students and key informant is because the equipment required for these activities are not modified and playing cards and draught chess had residue sight.

4.6. Challenges in accessing and using library resources

The challenges that the students face according to the study were:

- Absence of library orientation programs
- Insufficient library materials
- Inadequate reading equipment
- Lack of technology
- T Inadequate Personnel
- Inadequate library space

4.6. Proposed strategies to improve provision of information services to visually impaired

Some of the proposed strategies recommended by the students are discussed hereafter.

Proper library orientation

The respondents proposed for prompt and proper planning of library orientation soon after they gain enrolment in the school to enable them access information independently and familiarize themselves with library layout and procedures, the hours of library operation and type of resources, its importance and benefit to enable them access and utilize the resources effectively.

Increase information materials

A proposal was made to the Government of Kenya (GOK) to reduce the cost of materials for the disadvantaged groups like the visually impaired persons so that more books are procured. Donations from donors and well-wishers and requests be made to book publishers to provide Braille books in electronic format.

Alternative reading equipment

Considering the high cost of these materials, it was suggested that the school proposes to the GOK to automate their information resources for easier access.

Information communication Technology

There was a suggestion that the computer lessons be introduced at primary and secondary as mandatory in all schools. Free Internet facilities be installed and accessed at minimal or no cost and their computers equipped with assertive technology.

Increase human resource capacity

They suggested teachers can be approached for internship programs and the retired can volunteer their services to disadvantaged groups.

Expansion of library

The students acknowledged the significance of the Library to them despite its small size. They suggested that the computer room which is currently empty be stocked with reading materials for one & two students. The main library is left with reading materials for third and fourth form students. Outdated materials can be weeded to create more space. The walking space need to be made wide for easy mobility which can be achieved by the school seeking support of resources from religious organization and private organization.

5.0. Recommendations

The study recommends the following to improve the provision of information services to the visually impaired students.

Diversity of activities that can be undertaken by visually impaired student at Thika School for the blind

The study recommends that the school adds three dimensional models; apparatus to be modified, electronic light probe to be used for exploring parts inaccessible to fingers, skeleton, pictures which shall be useful to the totally blind students. Adaption of physical education and sports should be considered as part of their co-curricular for their well being. Indoor games and outdoor games should be introduced to them (Bruce, 2001). Field ground need to be modified to nurture their talents and reduce monotony from normal curriculum.

Additional reading equipment for visually impaired students

The school need additional assertive devices including personal computers with speech output to access to information. communication devices can be used for taking notes, when brailers are not available. Tape recorders for students to record lectures, discussion and do their assignments. Computers can be used for voice synthesizers.

Broadening of information services

The study recommends the introduction of other library services such as Selective Dissemination of Information (SDI), reading assistance, and increased library orientation programs for new students. The library need to come up with programs such as, motivational talks by inviting motivational speakers to give talks to the current trends, debates or discussions on topics affecting their day to day lives. the school need to form clubs with the aim of identifying and using students talents to encourage this group of students and develop a sense of belonging to the society.

Lending out some of specialised information resources

The study recommends that the school introduces a program where the students are provided with the resource for a specific period such that when they return the resource, they are given for the next group. Non-print resources should be properly utilized by visually impaired students. DVDs can be used to project a given topic in the classes offered. Talking books will be useful for the totally blind as they enjoy listening to the audio information. These machines are simply designed only with three switches thus, on/off, volume control and track change which they can operate easily.

The school can also make a formal request for increased funds from the GOK in order to purchase enough books and seek for permission to be exempted by Copyright Act to reproduce special-format material from original printed versions. budget allocated for Library's needs from the grant they receive from GOK. also the authority can approach the publishers, non-governmental organisation, religious groups and well-wishers for additional materials and digitization of available in print.

Specialised equipment for visually impaired students

The study recommends for additional support equipment in the library such as more Braille machine, talking books recorded, more tactile, computer for the blind, magnifying glasses and stylus, embossed Braille machine, Computers, tape recorders and sensory aids among others which are currently inadequate. magnifying glasses, slates and stylus, white canes to be compulsory for students to use while the rest could be procured.

The study further proposes networking of the Library for easy access to the internet and resources. With the advancement in ICT technologies, this would benefit the visually impaired by converting the print and access information on the web. Also adopting broadcasting media to keeping in touch with current global happenings and trends.

Recruitment of staff with special skills

The study recommends that the school request for qualified personnel with special skills to teach those students with visual impairments for them to move safely, confidently, and independently within school and the community. Further training on touch typing, computer use; low vision aids devices and sensory aids which would benefit the students.

6.0. Conclusions

Based on the study's findings, the following conclusions were drawn. The students undertake different activities in school. However the totally blind ones who do adopted biology; home science and agriculture do not have adequate materials for these activities, such as tactile diagram and skeletons among others. The Students do not participate in co-curriculum activities apart from athletics. It was established that not all information need were met. This has been hindering effective studies. The students get skilled in using the Braille and other devices during their studies. However they struggle searching for assistance and using communication devices which are of importance to them. The school has a Library with information materials which are informative, educational and recreational but these materials are inadequate and outdated. The students have not been trained to retrieve information and the librarian in charge does not have professional qualifications in Library Science or Special Education. There was no library program available for the students which would motivate them in different fields like politics and various club activities. The school has print resources which were inadequate and for non-print resources the only CDs encoded with information which was not current. The students cannot search information independently and especially the totally blind. They require assistance of the sighted people as they seek information. The students lack skills in computers and internet and program for leisure were not available during the time of study.

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