

Exploring Needs and Requirements of Differently Abled Students at Equal Opportunity Cell, University of Delhi

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A differently-abled student needs special attention due to his or her different learning abilities, medical condition or any physical disability. It is essential that all Institutions must put efforts to provide various facilities best suited to these students and bring about their intellectual, academic and cultural development along with all other students. The purpose of this study is to look into the various resources, facilities and services which have been provided by Equal Opportunity Cell (EOC), a special Center for specially abled students established at University of Delhi, Delhi (India) for satisfying the requirements of its users to achieve higher education. An interactive and feedback approach, by way of questionnaire and verbal interviews to reach to the opinion of the specially abled students at EOC, has been practised by the author for the study. The findings show that EOC provides some important facilities to its users such as short term courses along with sports events specially designed and organized for them, computer laboratories as per their requirements, scanning and accessible reading equipments to visually impaired students and provisions of volunteers for providing support to disable students followed with transport facilities for them. It is also observed that the staff of the EOC was very helping towards the students. Overall, students have accepted that EOC has been fulfilling its motto for creating a barrier free environment for them for their learning needs. The study recommends to quantitative increase in the numbers of assistive devices, installation of advanced Information and Communication Technology (ICT) tools and softwares for better and more efficient support to the specially-abled students.

Keywords: *Equal Opportunity Cell (EOC), differently-abled students, specially abled students, Person with Disability (PwD), Physically handicapped students, University of Delhi and blind students.*

Introduction

Information is combination of two aspects i.e. data and knowledge. Data is termed as meaningful information and it represents the value attributed to parameters whereas knowledge signifies understanding of the specific concept or term. In terms of communication, information is expressed as content of message or as direct or indirect observation.

A differently abled or specially abled student or learner is a student whose ability of learning is different from other students because of various reasons such

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as mental health or condition, learning disability or physical disability.

Various organizations are working to provide best possible facilities to these students which could enable them to attain higher education with least restrictions of their disabilities. Government of India has established more than forty Central Universities, i.e., funded by Central Government, in order to disseminate and advance knowledge and improve the social, economic conditions of all kinds of the people (including differently abled) and bringing about their intellectual, academic and cultural development.

University of Delhi is one of the top Central Universities which is situated in the capital of India i.e. New Delhi. An EOC was established in 2006 in University of Delhi with the motive to help and motivate special learners for their higher education needs. The Center of the University follows all the necessary instructions and guidelines issued from time to time by the Government of India (GoI). According to GoI, specialized syllabus, teaching method, teaching or learning equipment or gadgets should be adopted to enable differently abled students to get education and increase their learning abilities in a best possible way. Various other facilities should also be provided to special need students, like:

1. **Physical facilities:** Institution should provide special facilities to differently abled students in way to provide them opportunities to acquire quality education as well as to bring them into the main stream of society. These students should be treated as normal students and should be respected as what they are. Physical facilities like wheel chairs, blind sticks, audio-recorder, talking books and newspapers should be provided by institutions to its special need students.
2. **Ramps or Rails:** Institutions should have special ramps or rails for blind and physically handicapped students. Proper signals and symbols should be located, as well as main entry or exit gates should clearly be identifiable and easily be accessible. Steps and ramps should have hand railing and if possible Institutions should have an easy access facility to conveniently located lift.
3. **Rest rooms:** There should be separate rest rooms for special need students with clear identification and accessibility as well as large inside space. Doors of rest rooms should be wide enough with easy locking or unlocking system. Floors should be slip resistant. Mirrors, flushing arrangement and dispensers should be mounted at appropriate height.
4. **Provision for Scribes:** Institutes should provide and allow scribes to disabled students for examination for those having difficulty in writing examinations. Following guidelines as per GoI, should strictly be followed while appointing scribes to differently abled students:
 - A blind student or physically handicapped student with writing problem or learning disabled students may select the scribe.
 - An extra 1 hour's time is allowed to scribes to write examination.
 - A separate room should be allotted to the disabled students with scribe so that disabled students can easily dictate and scribe; easily write under their guidance.

- The scribe need not have a lower qualification to that of the student as well as scribe should not possess similar qualification pertaining to the examination which the student is writing. Scribe should have qualification of the similar level to the student but with different background or stream.
 - Scribe should not be a relative or near relative of the student.
5. **Braille Software or Facilities:** Blind students can easily read and learn from Braille books and Braille software, through which they can improve and develop their language and skills. Therefore, Institutions should have Braille reading material and computer systems equipped with Braille software in their Center or library or any other reading place.
 6. **Other facilities:** Facilities like big size audio and visual signals indicating different sections of the building should be located on different floors at arrival and other parts of building division. Lifts with wide space for wheelchair should be located near the entrance with proper parking facility inside and outside the building.

Literature Review

Resources and Services for Special Need Students

Ambali et al. (2018) in their studies have assessed resources and service provisions for differently abled library users in University of Ilorin and Federal College of Education (Special), Oyo. In their research, they surveyed all disabled patrons of libraries of aforementioned Educational Institutions as sample for the investigation. The study showed that out of the total sample survey, largest percentage of the users constituted deaf students followed by dump students. The students accepted that they were more comfortable by accessing resources and services in Federal College of Education as compared to University of Ilorin.

Special Provisions for Differently Abled Students

Walee (2017) has compared various types of support services that are provided to disabled students at two New Jersey Community Colleges. The study revealed various challenges such as financial problems, lack of remedial courses and awareness and self-advocacy faced by students. Petree and Wade (2018) in his participatory action research project studied for students with disabilities in a four year University system indicated requirement for a centralized community resource center for the differently abled students which could provide them with a meeting space for communicating and sharing resources with similar students. Kavishe and Isibika (2018) studied two university libraries (i.e. Ardhi University and University of Dar Es Salaam) in Tanzania to investigate the various types of provisions that have been provided for the people in wheelchairs for using library services. The results revealed that the libraries under study were not complying with the university library services to the users. Hence, it was suggested that libraries should always tried to provide the services which are accessible to all

users including the students in wheelchairs.

Utilization of Resources and Services

Babu and Xie (2017) explored the designs which were obstructing the blind users in the accessibility of digital libraries. Their study was based on interaction experiences with American Memory Digital Collection (AMDC) users. It was observed that the AMDC is not user friendly. Accordingly, they have tried to create awareness with regard to various choices of designs that could help blind students for seeking information from the digital libraries.

Problems Faced by Disabled Students and Staff

Heyer (2017) has found that there are varieties of problems and challenges that are being faced by disabled students as compared to normal students in their day to day learning. The study was based on the students entering or enrolled in Santiago Canyon College, Orange, California. Researcher concluded that it's not just a matter of providing grant proposals to the differently abled students for their higher education students rather the students should be empowered so that they can become their own advocates. Hence, a training program which could empower differently abled students to overcome their hurdles and to know their capabilities would more efficiently help them in pursuing their higher education.

Needs and Requirements of Special Need Students

Rayini (2017) while taking into account the guidelines issued by IFLA, Government of India and University Grants Commission (India) has opined that the blind students also have the same needs and requirements for seeking information as sighted students. It has also been stated that the visually impaired students also need that the required information may be accessed in their chosen format. He has described the barriers being faced by the blind students for seeking their information resources and has emphasized on utilizing IT tools and following the suggested guideline for improving the accessibility of library and information services to the blind students.

Statement of Problem

The present study was undertaken to explore a less researched area which require researchers' attention and focus so that the special need students and their service providers, can both be benefitted.

Objectives of the Study

In this study, users as well as managers of EOC, University of Delhi, India were surveyed to:

- Know types and kinds of resources and services provided by EOC for the special need students.
- Find out various special provisions available to differently abled students in EOC.
- Observe purpose of visiting EOC and motive of utilization of resources in EOC.
- Analyze usability of different resources and services by the students at EOC.
- Identify satisfaction level of students with the resources, services and staff of the Center.
- Observe worthiness of special provisions to differently abled students of EOC.
- Find out problems faced by staff while serving differently abled students and the problems faced by the student themselves while utilizing information resources at EOC.
- Know any other need or requirement of the differently abled students.

Research Methodology

Study Design

The broad area of the study is to know the information about the collection, services, infrastructural facilities and other ICT tools and technologies available and their usability at EOC. Both the qualitative as well as quantitative approaches have been considered appropriate for this study as the need or target of the investigators were to get the aforementioned information not just by going through the figures that are available on record of EOC but to cross-check them by experience, knowledge, thinking and perception of staff and the user students at EOC. The study has basically focused on exploring needs and requirements of differently abled students, the facilities being provided to them and the most important aspect that what are the areas of improvements to the present scenario at EOC based on the requirements of the students.

Participants

The Head and other related staff of EOC were purposely selected to serve as focused source of information for this study. However, in line with data collection method, investigators have interacted with many students (out of which only 63 students were able to participate in the research study) to bring clarity on the facts, figures and information provided by the staff of EOC and also to know usability pattern of the resources and services available at EOC.

Data Collection Methods

Data was gathered through Questionnaire, semi-structured interviews and participant observations.

Questionnaire

A survey research is the collection of information from a sample of individuals through their responses to questions (Check and Schutt 2012). After a deep review of the available literature on various aspects related to differently abled students, two questionnaires were prepared to collect data. First questionnaire was focused to get information from Head/Staff of the EOC about the availability of collection, resources, services, facilities and the ICT tools and technologies in the centre for differently abled students. Second questionnaire was prepared to get information from the users of the EOC with the focus to know users' point of view on available resources and services at EOC, usability pattern and problems faced by them.

Semi-structured Interview

Apart from getting data with the help of questionnaires, the author also personally interacted with the staff and users of the EOC for overall help in the research and to get information which participants do not want highlight in the questionnaires. Data collection from blind students has been through interview basis wherein the author do dictate all the questions to them and recorded their responses.

Participant Observation

This study is an interactive social process. Thus it is only by taking a practical observation of events that one can obtain a comprehensive understanding of the case being studied (deMarras and Lapan 2004, Simons 2009).

This study focuses on different special need students and undertaking a practical observation only can help in comprehensive understanding of the use and worth of available resources and services at EOC.

Data Analysis

Data analysis was done in tabulated form with the responses retrieved from questionnaires, interviews and observation.

Findings

The present study consists of following two fold surveys:

1. Observation and analysis on availability of information resources and services at EOC: The first part of the study was to find out availability of information resources and services to the differently abled students. For this, the Investigator has had interactive experience with the Head and other staff of the EOC.

2. Observation and analysis on user perspective on the usability of available information resources and services at EOC: The second aspect of the study was to analyze the validity and reliability of the information retrieved from the provider of the services and resources. This was achieved through recording responses of the users of the EOC in the user oriented questionnaire as well as through verbal interactions.

Availability of Information Resources and Services

The information retrieved from the Head of the Cell and other staff regarding the facilities and services at EOC, University of Delhi has been discussed and interpreted in the tables mentioned below.

Collection of EOC for Differently Abled Students

EOC is well known in terms of services it provides to its users. It is well equipped with special collection for differently abled students. A list of various special collections and information of its availability in EOC are given below:

Table 1. *Collection of EOC*

Serial Number	Information Resources	Yes or No
1	Braille Books	Yes
2	Braille Software	Yes
3	Audio or Talking Books	Yes
4	Talking Newspapers	Yes
5	Recorded reading material	Yes
6	Assistive Technologies	Yes
7	Large Printed material	Yes
8	Soft copy e-text	Yes
9	Scanned books in text	Yes
10	Books in electronic publishing format through outsourcing agency	No
11	Scanned magazines	No
12	Books scanned in digital accessible information system (DAISY)	Yes

As depicted in Table 1 above, it was found that EOC has 3 audio book production studios, 2 high capacity Braille embossers and it has most of the specialized collection like 1,885 Braille books, 1,755 talking books, various Large printed material for low vision students, 1,694 Softcopy e-text and various books scanned in digital accessible information system. The Center also possesses assistive technologies to fulfill user's required information needs. EOC does not have Scanned magazines and E-books from outsourcing agencies.

Physical Equipments or Infrastructure Facility to Special Need Students

To assist users with the resources of the EOC, it must have a good infrastructure as well as required equipments for the smooth functioning of the same. Availability of various infrastructural facilities and physical equipments available in the EOC are tabulated in Table 2.

Table 2. *Physical Equipments or Infrastructure Facility*

Serial Number	Equipments	Yes or No
1	Voice recorders	Yes
2	Special computers	Yes
3	Portal Scanners	Yes
4	Magnifiers	Yes
5	CD or DVD players	Yes
6	Mobile Phones	Yes
7	Customized Keyboards	Yes
8	Blind Sticks	Yes
9	Ramps and Rails	Yes
10	Wheelchairs	Yes
11	Transport Facility	Yes
12	Separate Toilets or Rest Rooms	Yes
13	Access to a conveniently located lifts	Yes
14	Visual and audible signals for directions or resources	No

EOC has almost all the listed equipments and infrastructure except audio signal boards which help it to serve differently abled students in a better way. Equipments like voice recorders, special screen computers, and magnifiers are used by special need students for their studies. EOC also provides mobile phones, Blind sticks, and wheelchairs to the needful students for their personal use as gifts and support facilities. EOC has good infrastructure facilities available in its building to serve its users better, like it not only has ramps and railing but it also has connecting Braille library and central library with lift facility. Students don't have to go here and there for their work but they just have to reach EOC and the building has internal connectivity with the other two important libraries.

Assistive Equipments Available in EOC to Provide Services in an Effective Way

Differently abled students need alternative formats to access information resources to fulfill their information needs. The following table highlights the alternative formats or assistive equipments being provided by EOC to its users.

Table 3 reveals that EOC acquires only 50% (10) assistive equipments out of 20 listed above and these include screen magnifiers, Braille printers, Cleat reader and Heavy lenses. Thus, Center is lacking in acquiring adequate assistive equipments, therefore it will be quite difficult for special need students specially visually impaired students to use EOC material for their study purposes because they can use resources only with the help of assistive devices or alternate format. Hence, there is a need of such type of equipments in EOC to cater the needs of

these users.

Table 3. Assistive Equipments Available in EOC

Serial Number	Equipments	Yes or No
1	Screen Magnifiers	Yes
2	Braille Printers	Yes
3	Hand-held Scanners	Yes
4	Magnifying Glasses	Yes
5	One hand keyboards	Yes
6	Refresher able Braille display	Yes
7	Cleat readers	Yes
8	Large print keyboards	Yes
9	Assistive listening device conversers	Yes
10	Readit wands	No
11	Eye-C Handheld Video magnifiers	No
12	Keyboard Overlay	No
13	Braille Typewriters	No
14	Talking Scientific Calculators	No
15	Flatbed Scanners	No
16	Overhead scanners	No
17	Sonic guides	No
18	Voice eyes	No
19	Ruby visual studio code	No
20	Heavy lenses	Yes

Special Services Provided by EOC to Differently Abled Students

Table 4. Special Services to Differently Abled Students

Serial Number	Services	Yes or No
1	Current Awareness Services (CAS) and Selective Dissemination Information (SDI)	Yes
2	Online databases	Yes
3	E-Document Delivery Services (EDDS)	Yes
4	E-indexing and Abstracting Services	Yes
5	Translation Services	Yes
6	Reference Services	Yes
7	Newspaper Clipping	Yes
8	Transcription Services	No
9	Braille Translation	Yes
10	Screen reading enabled library catalogue	No
11	Internet Facility	Yes
12	Online Public Access Catalogue (OPAC)	Yes
13	Special Courses	Yes
14	Scribe for examination	Yes
15	Volunteers or Helpers	Yes

There is a need of special services in any educational institution to serve special need students. Table 4 has highlighted various special services and facilities available to differently abled students.

Results of Table 4 above reveals that EOC provides almost all special services and facilities to its special need students except Screen reading enabled library catalogue and transcription services. EOC provides services like CAS, SDI, EDDS, E-indexing and abstracting services, Braille translation, OPAC, as well as special courses on subjects such as Information and Communication Technology, Communicative English (Basic and Advance Level), Disability and Human Rights, and Sign Language Interpretation (Level A and B) to special need students to make them more skilled and trained. Besides, EOC also organizes Sports events for physically handicapped students.

E-resources or Assistive Software for Special Need Students in EOC

Table 5. *E-resources or Assistive Softwares for Special Need Students*

Serial Number	E-resources	Yes or No
1	JAWs Pro Talking Softwares	Yes
2	Kurzweil 1000 OCR Reading Softwares Pro.	Yes
3	Braille Scanning Software-OBR	Yes
4	Angle, Pro	Yes
5	Freedom Scanning SARA	No
6	Zoom-X	No
7	NVDA Software	Yes
8	LEX Cam scanner	No
9	Speech Synthesis	No
10	Digital Voice recorder ICU-UX70	No
11	Talk and Zoom	Yes
12	Talk Backs	No
13	Hindi OCR	Yes
14	OBI DAISY	Yes
15	SAFA Reader	No
16	Open Book	No
17	Read Easy	No
18	Lasecann	No
19	AMIS	No
20	Pearl Instant Reader	No
21	ABBYY fine reader	No
22	Vaachak	No
23	Magic Pro Magnification	Yes
24	Dux Bury	Yes
25	Talking Typing Teacher Pro	No
26	Infity reader and Chatty Infity	No
27	Sparsha	Yes
28	PUTTY	Yes
29	Sigtuna	Yes
30	Leap Office	Yes

Educational Institutions must arrange tools and resources as per the requirements of disabled users and should offer a variety of services for students with special needs. The term ‘special needs’ in terms of library and information services relates to the needs of people who are not able to use standard library and information services. In this regard professionals of EOC were asked about the software available for differently abled students and the availability is shown in Table 5.

It is found that EOC has network of 22 latest computers with softwares like Daisy System, Sparsha, OBI, PUTTY, Sigtuna, Jaw, Duxbury, Leap Office, NVDA software, Hindi OCR, Magic Pro Magnification, and Kurzweil 100 OCR Reading software.

Problems Faced by Staff of EOC While Serving PwD Students

Table 6 ascertains the difficulties encountered by EOC’s staff in providing services to special need students.

Table 6. *Problems Faced by Staff*

Serial Number	Problems	Yes or No
1	Lack of funds	No
2	Untrained Staff to deliver services	Yes
3	Sustainable equipments	No
4	Users attitude	No
5	Maintenance of assistive software and equipments	No
6	Unstandardized open access resources	No
7	Less number of resources compliant with standards	No
8	Lack of cooperation with authorities	No
9	Scanning process consumes time	Yes
10	Dissemination of information	No
11	Poor internet connectivity	Yes
12	Lack of awareness about ICT among users	Yes
13	Lack of active volunteers	Yes

Table 6 reveals various problems encountered by staff of EOC in serving special need students. The problems mentioned by them are poor internet connectivity, lack of awareness about ICT among users, time consumption in scanning, and availability of few untrained staff.

User Perspective on the Information Resources and Services

After interacting with staff and Head of EOC, investigators interacted with users of the cell to have a real impression of resources and services provided by the EOC on differently abled students. To ensure objectivity and validity in the research, the investigator distributed 100 choice based questionnaires to the users of the EOC who are differently abled students. Only 63 percent response could be recorded from the user students because of various limitations such as lack of time,

patience and interest. The responses of users so recorded have been analyzed and the perspective of users is depicted in Table 7.

Types of Users Who Visit EOC

The EOC is effectively taking steps to implement the provisions of the Rights of Persons with Disabilities Act, 2016, particularly in admissions. More than 5,500 students with special need get enrolled in various disciplines under University of Delhi. The different kinds of visitors at EOC are tabulated as in Table 7.

Table 7. *Types of Users*

Serial Number	Particulars	No. of students	Percentage
1	Students with visual disability	40	63.49
2	Students with Hearing disability	3	4.76
3	Students with physical disability	19	30.15
4	Students with Mental disability	0	0
5	Others (students with speech disability or other disability)	1	1.58
	Total	63	100

It is observed from the data collected that approximately 50 students visit EOC on daily basis to utilize its resources and services. Table 7 shows that around 64% students visiting EOC are observed to be visual impaired students. Investigator had not observed any student with mental disability at EOC. Only 1.58% students with speech problem or any other minor disability were observed to be visiting at EOC.

Purpose of Seeking Information from the Institute

Each individual has different purpose to use library resources. Investigator asked differently abled students about their purpose of using information resources of Equal Opportunity Cell. The findings have been depicted in Table 8.

Table 8. *Purpose of Seeking Information*

Serial Number	Purposes	No of Students	Percentage
1	Class notes	30	47.61
2	General Awareness	24	38.09
3	Knowledge Update	24	38.09
4	Research	12	19.04
5	Any Other	6	9.52
	Total	96	-

Note: Multiple choices were allowed.

It is observed that students are giving much more importance to class notes and curriculum related studies (48% approximately). EOC helps differently abled

students for providing them notes of different subjects on different topics in different formats, e.g., notes in recorded format provided to blind or low vision students. Students were also using the cell for boosting their general awareness (38% approximately) and updating their subject knowledge (38% approximately) required for clearing various competitive examinations related to career and other academic prospects. Besides, students were making use of the resources at EOC for research purposes, knowledge update and other requirements.

Types of Resources used by Differently Abled Students

Investigators surveyed students to know about type of library and information resources used by them. The result showed that most of the students still prefer traditional information resources in print media form. It has also been noticed that blind students preferred audio resource. The findings are tabulated in Table 9.

Table 9. *Type of Resources*

Serial Number	Resource Type	No of Students	Percentage
1	Print	51	80.95
2	E-Resources	6	9.52
3	Audio-Video	30	47.61
4	Reference Collection	6	9.52
5	Internet	21	33.33
6	Any Other	3	4.76
	Total	117	-

Note: Multiple choices were allowed.

It was observed from Table9 that around 81% students prefer print resources over e-resources. Only few students (around 10%) visit EOC for reference collection and e-resources. Apart from this, around 50% students utilize audio or visual resources.

Satisfaction Level with Overall Collection of the Center

Investigator tried to find out effectiveness of collection of information resources in EOC, so differently abled students were surveyed about their point of view on collection available in the Center. Findings are highlighted in the Table 10.

As per the findings, out of 63 students 27 (around 43%) students were extremely satisfied with the overall collection of the books in the center. Hence, the center is trying hard to meet the needs and requirements of its users.

Table 10. Satisfaction Level with Overall Collection

Serial Number	Particulars	No of Students	Percentage
1	Extremely Satisfied	27	42.85
2	Satisfied	24	38.09
3	Unsatisfied	3	4.76
4	Extremely unsatisfied	6	9.52
5	Can't say	3	4.76
	Total	63	100

Sources Referred By Users to Get Information from Online Resources or Offline Resources

Both online and offline resources are very important to learn anything in a better way. Both of these resources are preferred and utilized by users of EOC because of their respective benefits. Users were surveyed about the sources used by them to utilize online as well as offline resources (Table 11a, 11b).

Table 11a. Online Resources

Serial Number	Particulars	No of Students	Percentage
1	Website	39	61.90
2	E-Journals	9	14.28
3	E Mail	6	9.52
4	E Database	15	23.80
5	Any Other	0	0
	Total	69	-

Note: Multiple choices were allowed.

It is observed that students are using online resources to get the relevant information. Through online resources, students visit Website (62% approximately) to get the relevant information. E Database (24% approximately) and E-journals (14% approximately) are also being used by the students.

Table 11b. Offline Resources

Serial Number	Particulars	No of Students	Percentage
1	Books	25	39.68
2	CDs or DVDs	10	15.87
3	Print Journals	16	25.39
4	Any Other reference sources	12	19.04
	Total	63	100

Offline resources are not in much use as information is always changing and they don't provide updated information. However, books are the most Preferred sources of offline resources as suggested by 40% respondents. Other forms of offline resources include CDs or DVDs (16% approximately) and Print Journals (approximately 25%).

Usability of Special Provision or Facilities Provided by EOC to Differently Abled Students

Special need students need special attention so that their needs and requirement can be fulfilled easily. EOC provides various special facilities to them but their effectiveness can only be validate with the responses of the users, so investigator surveyed users about facilities available to them. The responses are tabulated in Table 12.

Table 12. *Special Provision or Facilities*

Serial Number	Particulars	No of Students	Percentage
1	Wheel Chair Facility	3	4.76
2	Special facility of Ramp or Rails	30	47.61
3	Access to a conveniently located lifts	0	0
4	Separate Toilets or Rest Rooms	0	0
5	Scribe for Examinations	6	9.52
6	Braille Software or facilities	15	23.80
7	Visual and audible signals for directions and resources	12	19.04
8	Any Other	0	0
	Total	66	-

Note: Multiple choices were allowed.

It is observed (Table 12) that students make use of special facilities available for them in the EOC like special ramps or rails (48% approximately), scribes for examinations (9.5%), Braille software (24% approximately) and audio or visual signals (19% approximately). Facility of lifts and separate toilet are available in the central library attached to EOC which is somehow utilized by users only when they access library.

Satisfaction Level with Services Provided by EOC

Investigators surveyed users about satisfaction level with services being provided by EOC to them and results are shown in Table 13.

Table 13. *Satisfaction Level with Services*

Serial Number	Responses	No of Students	Percentage
1	Extremely Satisfied	30	47.61
2	Satisfied	15	23.80
3	Unsatisfied	10	15.87
4	Extremely unsatisfied	7	11.11
5	Can't say	1	1.58
	Total	63	100

It is observed (Table 13) that around 50% students are extremely satisfied with the services provided by the institute but around 16% students are unsatisfied

with the services followed with 11% users who are extremely unsatisfied with the services available in EOC, which shows that Center should update the current services.

Co-operation of Staff with Special Need Students While Accessing Resources

Along with useful collection and effective services, it is also of a great importance to have skilled and hardworking staff to serve the users in an effective way. Hence cooperation of the Staff is an essential element for the special need students while accessing the resources at any Center. Students were surveyed about cooperation of staff with them and findings are presented below.

Table 14a. Cooperation of Staff

Serial Number	Responses	No of Students	Percentage
1	Yes	46	73.01
2	No	17	26.98
	Total	63	100

It is observed (Table 14a) that out of 63 students, 46 students have expressed that the staff was co-operative and fully able to solve their problems. However, 17 students were not satisfied with the staff.

If No: Reasons for the same

Table 14b. Reasons for Dissatisfaction

Serial Number	Reasons	No of Students	Percentage
1	Staff is unwilling to serve	0	0
2	Lack of awareness of staff	8	47.05
3	Lack of skilled staff	3	17.64
4	No special provision to treat you	6	35.29
5	Any Other	0	0
	Total	27	-

Note: Multiple choices were allowed.

The students (as mentioned in Table 14b), who have expressed that staff was not co-operative towards them, have informed that there was lack of awareness among the staff and there was no special provision to assist or help them.

Users' Approach to Retrieve Information from the Center

There can be various methods through which the user enables himself or herself to retrieve the information from any particular center. It is important to know whether the Center is capable of making its user confident of retrieving information through themselves by the possible and available services and if not so, then what are the other available modes for them. Hence, the investigator

interviewed users of EOC to find about their approaches to retrieve the requisite information. The observations are mentioned in Table 15.

Table 15. Modes of Retrieval of Information

Serial Number	Responses	No of Students	Percentage
1	Yourself	15	23.80
2	With the help of staff	30	47.61
3	With the help of other students	12	19.04
4	Any special staff appointed to help you	3	4.76
5	Any person brought by you	5	7.93
	Total	65	100

Note: Multiple choices were allowed.

It is observed from the users' responses (showed in Table 15) that students at EOC retrieve information with the help of staff (46%), by themselves (23%), with the help of other students (18%), any other external assistant brought by them (8%) and also with the help of any special library staff (5%). Hence, majority of the students are dependent on the staff of EOC.

Problems Faced by the Students While Retrieving Information Resources and Services from EOC

Although the Center has been taking effective measures to serve its users, however, it is important to know the problems of the students while accessing and retrieving information resources at the EOC. Accordingly, the Investigator surveyed users about those problems and the observations are mentioned in Table 16.

Table 16. Problems Faced by Users

Serial Number	Particulars	No of Students	Percentage
1	Unavailability of required information	24	38.09
2	Staff is not willing to serve	18	28.57
3	Information retrieval process is time consuming	21	33.33
4	Absence of adequate guides in the library	18	28.57
5	Information is not well managed	9	14.28
6	Lack of awareness of staff	21	33.33
7	Old technology used by center	12	19.04
8	Poor Internet	13	20.63
9	Timing of circulation	10	15.87
10	Time consumed in circulation	10	15.87
11	Lack of adequate helpers in center	5	7.93
12	Any Other	0	0
	Total	161	-

Note: Multiple choices were allowed.

Students, inter-alia, mentioned (in Table 16 above) various problems such as Unavailability of required information (38%), Lack of awareness of staff (33%), information retrieval process is time consuming (33%), Staff not willing to serve (28%), Absence of adequate guides in the Center (28%), internet problem (21%), Old technology used by the Center (19%), circulation related problems (16%) that were affecting them.

Areas which need to be improved in EOC according to Users

Investigator has further asked users as to whether they need any changes in the functionality of the Center or any particular area which need updating. The results obtained are presented below:

Table 17. *Areas of Improvement in EOC*

Serial Number	Particulars	No of Students	Percentage
1	More Helpers should be appointed	7	11.11
2	More space to sit or walk	4	6.34
3	More ICT facilities and services according to your needs	10	15.87
4	More equipments of reading and writing	15	23.80
5	Need of more collection according to your needs	8	12.69
	Total	44	-

Note: Multiple choices were allowed.

Majority of the differently abled students have requested for increasing the reading and writing equipments in the center (24%). Provisions of more helpers, more equipments, ICT facilities, better place to sit or walk are other areas of improvements. It was also observed that differently abled students also require assistance in writing their examinations and helpers to help them in walking.

Discussion

Equal Opportunity Cell established in University of Delhi has been ensuring its motive of non-discrimination for person with disabilities (PwD) students by creating a barrier free environment for them in the University. This Cell has been striving to perform its duties and fulfill its assigned responsibilities towards society.

Resources and Services for Special Need Students

It is observed that EOC is well equipped with special collection which includes Braille Books, Braille Software, Audio or Talking Books, Recorded reading material and Assistive Technologies for meeting the needs of differently abled students.

Special Provisions for Differently Abled Students

The special services and facilities like special courses, scribes for examination, organizing sports events to them and other special library services offered by the EOC have also been praised by the user students (72% users are satisfied with services of the cell). EOC has been taking other affirmative action in favor of PwD students like providing assistance in establishing enabling units in Colleges and sensitize University community about the PwDs. Each and every college associated to Delhi University has been instructed to provide facilities to differently abled students by establishing separate enabling cell to them, so that graduate students can be benefited at their own respective colleges. These enabling units are providing with funding and other facilities by EOC.

Sport events and competitions are some other facilities which not only raise or improve morale of the students but also motivate them to enhance their sporting or any extra- curricular skill and explore a different area to grow.

EOC has also been organizing various international visits under collaborative program for giving its students a significant learning experience and international exposure to advanced learning methods.

Utilization of Resources and Services and Satisfaction Level of the Users

The study has revealed that about 81% of the users are satisfied with the collection of EOC. Further, it is evident from the responses of the students (57% users) that the staff at EOC is skilled, helpful and cooperative towards the users.

Problems Faced by Disabled Students and Staff

It is observed that some of the problems being faced by the users at EOC are unavailability of required information (38%), lack of awareness of the staff (33%) and time constraint for retrieving information (33%).

Needs and Requirements of Special Need Students

It has also been observed that although EOC has been putting its best efforts to fulfill the needs of the students, however, there is still a scope of improvement in some areas. The students have responded that there should be increase in number of helpers (around 11% users) and transport facilities. The students (around 16% users) have urged that the assistive devices and softwares being provided to them should be upgraded.

Conclusions

It is a moral obligation of all the libraries that the information may be made available to all kind of users irrespective of their gender, age, race, political affiliation or any kind of disability. It is also the right of the disabled students that

they may also utilize the resources and services provided by the libraries in their own chosen format to fulfill their needs for education and learning as their counterparts do. EOC established at University of Delhi is a special center which provides required support system to the students with disabilities for their educational and social upliftment. It focuses on enabling the differently abled students to achieve their academic goals. EOC is effectively helping in creating a barrier free environment for these special learners by way of various facilities and assistive measures specially designed for the differently abled students and it should further update itself as per the present needs and requirement of its user as well as changing digital environment.

Recommendations

The study makes the following recommendations to the EOC and all other libraries:

1. It is required that libraries should install the most advance assistive devices, tools and softwares so that the users can be benefitted more effectively. Libraries should always strive to bring out the utilization of the most efficient IT tools which could be a boon for the users including the students with disabilities.
2. There should be user-oriented training programs which should be organized by respective Institutions for the students with disabilities to overcome the fear of technology and get adapted to the hassle free, time saving and user friendliness advantages of the IT tools. Staff should also be trained so that they can easily handle the users and the resources of the Institute.
3. Educational Institutions should always focus to empower the students with disabilities by looking after their needs and requirements and without their segregation, isolation and marginalizing their interests.

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References

- Ambali OZ, Usman AS, Olabisi FA (2018) An assessment of the resources and services provision for the disabled library users in University of Ilorin and Federal College of Education (Special) Oyo. *Library Philosophy and Practice* (ejournal), 1818. <https://digitalcommons.unl.edu/libphilprac/1818>.
- Babu R, Xie I (2017) Haze in the digital library: design issues hampering accessibility for blind users. *The Electronic Library* 35(5): 1052-1065.
- Check J, Schutt RK (2012) *Research methods in publications*. Thousand Oaks, CA: Sage Publications.
- deMarrais K, Lapan SD (2004) *Foundations for research: Methods of inquiry in education and the social sciences*. Mahwah: Lawrence Erlbaum Associates, Inc. Publishers.
- Equal Opportunity Cell. Retrieved from <https://bit.ly/2uhkI7c>.
- Heyer C (2017) *Advocacy Services for college students with disabilities: a grant proposal*. California State University, Long Beach, Ann Arbor.
- Kavishe GF, Isibika IS (2018) Provision of library services for users in Wheelchairs at Ardhi University and University of Dar Es Salaam Libraries. *Library Philosophy and Practice* (e-journal): 1-11. Retrieved from <https://bit.ly/2YxVRXS>.
- Petree W (2018) *A Participatory Action Research Project to Identify the Psychological Service Needs of Students with Disabilities in a Four-Year University*, Ann Arbor: Our Lady of the Lake University.
- Rayini J (2017) Library and information services to the visually impaired persons. *Library Philosophy and Practice*: 1-13. Retrieved from <http://digitalcommons.unl.edu/libphilprac/1510>.
- Simons H (2009) *Case study research in practice*. London: Sage Publications Ltd.
- Waale MF (2017) *Supporting Differently-Abled Students in Two New Jersey Community Colleges*. Rutgers The State University of New Jersey New Brunswick, Ann Arbor. Retrieved from <https://bit.ly/35iDdGl>.

