Pakistan Social Sciences Review
www.pssr.org.pk

RESEARCH PAPER

Accessibility Hurdles in Inclusive Education of the Visually Challenged Students at University Level in Pakistan

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DOI http://doi.org/10.35484/pssr.2022(6-II)39

PAPER INFO

Received:
February 14, 2022
Accepted:
May 10, 2022
Online:
May 12, 2022

Keywords:
Accessibility, Inclusive Education, University Level, Visually Challenged

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ABSTRACT

The purpose of this research study was to explore the accessibility hurdles in inclusive education of visually challenged students at university level in Pakistan. After reviewing the relevant literature, a data collection tool in the form of interview guide was designed to collect qualitative data whereas, For quantitative data, the quantitative items holding internal consistency (a=.729)on Cronbach Alpha were constructed. Data was collected from visually challenged students belonging to ten purposively selected HEC recognized institutions of higher education functioning in the city of Lahore. Data was gathered and analyzed. Results revealed the availability of different facilities i.e., audio books 14%,Braille books22%,screen reading software37%,Braille embosser30%,large print5%,electronic books33%. Availability of Braille screen displays was only4%, Screen magnification software, training of screen reader and audio books were 18%,20% and 14% respectively. On the basis of research findings measures were recommended to improve the situation In acquisition of inclusive education for visually challenged students.

Introduction

All the nations and states have acknowledged education as the basic human right of everyone regardless of any difference based on cast, color, creed, nationality, disability, or any other characteristic (UN, 1945). Education should be provided to all human beings in an inclusive environment acknowledging and understanding their differences. Their differences should be taken as a source of developing harmony among the participants rather than looking down upon each other (Salamanca statement, 1994). UNCRPD (2006) has made all the nations agree upon the provision of inclusive education to their children with disability without any discrimination. The states agreed to remove the accessibility barriers and do the required modifications in the environment and study materials in such a way that the persons with certain disabilities could feel free to learn new skills and knowledge but also share their own learning with their peers without any hurdle.

Unfortunately, in Pakistan, the development in the implementation of the real spirit of inclusive education has been extremely slow until the middle of the 1980s. the government started giving special attention towards the arrangements for the education of the differently abled people after UN declaration of the ten years special focus on people with disabilities in terms of their quality education, inclusion, and rehabilitation during 1983-1992. Being a signatory of all the major human rights agreements, conventions, and treaties like World declaration EFA 1990, The Salamanca statement 1994, and UNCRPD 2006, Pakistan has admitted the responsibility of providing inclusive education to its citizens without discrimination on any basis. In spite of this commitment and the promises done in the provincial special education policies after 18th amendment in the constitution, inclusion of the visually challenged students in mainstream institutions in the real sense of the word is still a dream. These students are not expected to give their performance in all fields of learning due to inaccessibility of study material and poor arrangements of assistive technology.

Literature Review

Inclusive education is a system of providing education to all the students respecting their diverse needs. It allows all the participants in learning to acquire new knowledge and learn new skills according to their individual learning style. The system is responsible for removing all accessibility hurdles in terms of physical infrastructure, study materials and attitudinal barriers (UNESCO, 1994). Ainscow et al (2006) gave the concept of two types of inclusion for example, "Narrow inclusion" which refers to the placement of specific group of people usually persons with disability. secondly, they explain "Broad inclusion" referring to the inclusion of all participants regardless their nationality, gender, ethnicity, race, religion, color, or any other difference by removing accessibility hurdles or acceptability barriers from the environment.

The nations around the globe agreed to implement inclusive education system in their respective countries with a detailed description of equality of rights to get education in mainstream rather than a segregated environment for the persons with disability in 2006 under the auspices of United Nations. the international convention is known as "Convention on the Rights of Persons with Disabilities (CRPD)". Article 24 of the convention specifically focusses on the provision of human rights in inclusive education setup in terms of equality and equity. The article binds all the nations to open the admissions for all the students in main stream institutions with the understanding of the fact that every individual (including students with disability) has the right to education, the acceptance of persons with disability on the basis of equality and equity, they have the right to access study materials without any hurdles and they have the right to get education by the teachers who are trained to accommodate all their students in their class rooms. further the same article 24 of the convention requires from all the state parties to ensure the modifications in their education system where persons with disability could be able to get, not only academic but also technical/scientific knowledge along with their non-disabled peers in the inclusive education setting. Pakistan signed UNCRPD in 2008 and ratified in 2011 while federal ministry of education started its working in collaboration with DGSE and provincial departments of special education to implement the global convention (UN, 2019).

Students with visual impairments face a lot of hurdles in their journey to the achievement of quality education. They are usually unable to give their required response due to their limitations in terms of accessibility. resultantly, many of them either leave their studies in the halfway or finish their degree with the lower grade. (Robert, 2014)

During past two decades there have been many changes in the content accessibility structure for the visually challenged students. the use of information technology (ICT) has broadened many options in terms of making the study material accessible. The use of electronic journals through screen reading technology, accessibility of E-books through screen readers and scanning software, and the provision of web accessibility through format standardization has enabled the visually challenged students to study equally along with their sighted counterparts in mainstream institutions. (Arrigo, 2005 and Koganuramath, 2009). Further, software technology has provided solutions by reformatting information and making them accessible for the visually challenged students in science classes. The technology development has changed the perceptions and expectations of teachers as well as administration towards the students with blindness (Cryer et al., 2013). According to DePountis et al(2015)., the visually challenged students can be taught mathematics using different combinations of software bundles. With the help of statistical software packages along with speech output, the subject of statistics can be made accessible for the visually challenged students. (Erhardt & Shuman, 2015). According to Wongkia (2015) visually challenged students can read mathematics using I-Math software even at advance level. Learning resource centers at university campuses can be equipped with the accessibility solutions to help and guide visually challenged students to read and write their study material without hurdles. (Koganuramath & Choukimath, 2009).

Where education of the general people is too pathetic, the learning of the persons with disability can hardly be discussed in Pakistan. (Ahmad et al., 2011). In Pakistani settings, visually challenged students are facing a lot of accessibility hurdles while getting education in mainstream institutions in spite of the fact that the state has signed UNCRPD in 2008. According to Zia (2016), visually challenged students are usually forced to request for reading help to their sighted friends at university level while making their class-room assignments in Pakistani institutions. They even usually have to request their sighted friends to help them as a writer during exams. Due to this limitation, visually challenged students are heavily dependent upon the skill of the helper. If their helper is slow at writing, they have to shorten their description and elaboration of their answers.

Pakistani institutions of higher learning are lagging behind in terms of needs analysis for the arrangements of inclusive education for the visually challenged students. Further they are not in a strong relationship with other state institutions to receive reality-oriented policies and implement them in true letter and spirit. On the other hand, there is not a strong liaison among HEC, ministry of education and universities to implement inclusion as per international agreements. Most of the study subjects have been made accessible for the visually challenged students in the developed countries with the help of ICT and information technology and other assistive devices but Pakistani universities are at their initial stage to arrange these resources (Pakistan Observer, 2012). The visually challenged students in Pakistani universities are facing multiple barriers to access their learning materials (Ahmed et

al., 2012). Unfortunately, in Pakistan, visually challenged students face a lot of hurdles and attitudinal barriers. These hurdles and attitudinal barriers limit these students to only a small number of theory-based subjects (UNICEF, 2021).

Material and Methods

Population

The population was all the public and private sector universities/colleges of Lahore city enlisted by H.E.C.

Sample

The sample includes ten purposefully selected HEC recognized institutions of higher education level in the city of Lahore. the data were collected from visually challenged students studying at higher education level in these institutions.

After reviewing the relevant literature, the researcher designed a mixed method data collection tool. The tool contained quantitative items to know the availability of relevant resources for the inclusion of the visually challenged students in mainstream institutions of higher learning. Cronbach's Alpha was computed to know the internal consistency reliability of the quantitative items on the scale. The alpha of the items was (α = .729), which indicates that the items form a scale that has reasonable internal consistency reliability.

Embedded mixed method suggested by Creswell (2003) was used with the major focus on qualitative data. It contained qualitative interview questions to allow the students to openly express their problems regarding accessibility, infrastructure, and teaching methodology. After designing the interview questions, the interview protocol was sent to the experts in the field of language and inclusive education for their comments and opinion. In the light of their expert opinion, the language of the interview guide was made simple. Deductive qualitative data analysis (DQA) suggested by (Gilgun, 2014) was used to analyze qualitative interviews whereas results were drawn from quantitative data using percentages.

Results and Discussion

Table 1
Status of assistive devices and essential training of Visually challenged students

Sr. No	Name of facility	Percentage of availability
1	Audio books	14
2	Braille books	22
3	Screen reading software	37
4	Braille embosser	30
5	Large print	5
6	Electronic books	33
7	Braille screen displays	4
8	Screen magnification software	18
9	training of screen reader	20
10	training of audio books	14

As mentioned in the above table, the quantitative data shows that only fourteen percent of the visually challenged students are being facilitated with Audio books, twenty two percent with Braille books, thirty seven percent with Screen reading software, thirty percent with Braille embosser, five percent with large print, thirty three percent with electronic books, four percent with Braille screen displays and eighteen percent with Screen magnification software. the quantitative results further reveal that twenty percent of the visually challenged students are having basic training of any screen reading software whereas only fourteen percent of such students are with the basic training of recording and using Audio books. in other words, it also reveals that only 19.7 percent required facilities are in the access of visually challenged students studying in different public as well as private sector universities in Pakistan. It is also worth mentioning that these institutions are comparatively high rated universities where the students with visual disabilities are enrolled.

Accessibility Hurdles and Subject Choice

The demographic data reveals that nineteen point two nine of them were studying Urdu literature, nineteen point two nine of them studying English Literature, seventeen point five four percent of them studying Political Science, eight point seven percent of them studying History, seven point zero one of them Education, five point two six percent of them were studying psychology, five point two six percent of them Special education, five point two six percent were studying Islamic Studies, five point two six percent of them International Relations, three point five percent of them Economics, three point five percent of them Business administration and one point seven five percent of them Mass communication. On the other hand, zero percent of them was studying Physics, Chemistry, Biology, Computer science, Mathematics, or any other natural science due to accessibility hurdles.

Accessibility Hurdle at Campus Infrastructure

Further, the qualitative interviews reveal that the students repeatedly mentioned the accessibility hurdles like: Inaccessible campus buildings, inaccessible notice boards, inaccessible writing boards, inaccessible reading material, non-availability of assistive devices and non-availability of science subjects. The above tables of quantitative results also support the findings.

During the qualitative interviews, the visually challenged students frequently mentioned that they face a lot of problems while locating their classroom, library, and cafeteria. They usually get late from their important lectures and their teachers get angry. As in the words of respondent number 7, "They should also put Braille labels on every room door". They further reported that they faced a lot of hurdles while searching their classes on other upper floors. As expressed by respondent number 39: "They should install talking elevator".

During the qualitative interviews, the visually challenged students reported that their campus administration did not have a proper system of informing the blind students about newly started construction on any part of the university campus. Due to this unplanned activity, they had to face a lot of hurdles in accessing their classrooms and moving on the campus. As expressed in the words of respondent

number fourteen, "I was about to fall today. They started construction without any indication."

The qualitative results further reveal that campus accessibility was a greater hurdle (especially) for the female visually challenged students studying at university level. Due to cultural /religious constraints, they are facing many problems in mobility on campus. If a visually challenged male student has to go to a particular place, he can request to anyone passing by him but, if a female visually challenged student has got to make the same request, she cannot make a request to a male person to help her in this connection. As expressed by respondent number six (a female student), "Yes, (…) yes, sometimes I feel for example today my sighted female friends were not available, and I had to submit my synopsis to my teacher in his office, but I could not say to any male class fellow because I had to hold his hand."

Notice Board Accessibility Hurdles

During the qualitative interviews, the visually challenged students reported that they can not avail different opportunities of self-grooming through participating in different competitions like poetic competitions writing competitions, debates, speeches, and other such events of gaining confidence due to the fact that they usually miss the events lacking notice board accessibility. Usually, the notices of different events are posted on campus notice board, but visually challenged students are unable to read. As expressed in the words of respondent number twenty-six as, "Sometimes we are interested in participating in a program but due to lack of communication we miss it. for example, I am a poet and I want to recite my poetry in poetic competitions, they just place a notice on the notice board and blind cannot read those notices. This is a big problem."

Due to inaccessible notice board, the visually challenged students also miss important awareness lectures, seminars, and trainings. As expressed by respondent number seventeen like, "Sometimes we come to know about a recent lecture or seminar which we have missed due to this reason. University should send us SMS or display their notices regularly on their website. They should at least send a notice in our resource room. The in-charge person will convey us."

Writing Board Accessibility Hurdles

The qualitative results further informed that the visually challenged students studying in different institutions of higher learning are not independent in noting classroom lectures. They have to request their sighted class persons to read what their teacher has written on the white board or writing board without speaking. Sometimes it becomes very embarrassing for them to disturb their sighted friends by interrupting their own note taking activity. As expressed in the words of respondent number one as, "If they write something on the white board, they should keep in mind that there is also a blind student sitting in the class. They should speak whatever they have written on the board. But they do not read. In that case I have to get some help from my friends. I request my friend to read it for me."

The results reveal that visually challenged students are extremely comfortable with those teachers who speak while writing on the white board. If they do not utter whatever they have written, some of the visually challenged students have courage to ask their teacher to read but many of such students usually hesitate. As expressed

by respondent number three: "We have to request to the teacher to please speak whatever is being written on the white board. Some teachers just write and do not speak, you know, the sighted students easily see and note the things from white board, and we cannot do so."

Inaccessible Reading Material

The whole collected data indicates that the visually challenged students do not opt for natural science subjects due to the fact that there is no system of professionally designing and making the reading materials accessible. As quantitative results reveal that only twenty two percent visually challenged students have access to braille books. further qualitative results unfold that these twenty two percent braille books are not only hardly available but belong to only some specific arts and humanities related subjects chosen by the majority of visually challenged students. On the other hand, only four percent have the access to braille screen displays whereas braille embosser is available to thirty percent students. It results in the sheer scarcity of reading materials which always negatively effects the academic performance of the visually challenged students in higher education institutions.

Conclusion

Visually challenged students studying at higher education level are facing a lot of accessibility hurdles at university campuses in Pakistan. They are facing problems while accessing various places like library, classrooms, ground, and cafeteria due to the accessibility hurdles in the physical infrastructure. They are unable to get information about upcoming events because they cannot read from notice board due to their vision problem. They cannot properly note down their classroom lectures because they cannot read what is being written on the white board. They cannot access classroom handouts as they are not available in accessible format. They cannot search their related study material on the internet to enhance their learning ability due to non-availability of related assistive devices. Eventually, these hurdles and limitations force these students to limit themselves to only arts related theoretical subjects. It hinders them to enter into the field of science and technology.

Recommendations

- The old campus buildings should be made accessible to the maximum possible level keeping in view the universal design of infrastructure. The construction of the new buildings should be done by strictly following universal design so that the visually challenged students could easily move.

- The whole communication should be managed through E-resources like institutional website, E-mail service, SMS, and audio messaging so that the visually challenged students should not miss any important notification.

- Teachers should be given awareness and training regarding communicating with their visually challenged students along with their sighted pupils. They not only should speak while writing on the white board but also read the whole lecture point after completing the writing.

- Every university library service or resource center should obtain a braille embosser so that the gap of study material accessibility could be filled. Further, every library should be equipped with at least two braille screen

displays with maximum character capacity to facilitate temporary and quick reading. It will open the doors to natural sciences.

- Every institution of higher learning must be equipped with commonly used assistive devices (including reading devices and navigation tools) to achieve the spirit of inclusion of the visually challenged students.
- Institutions of higher learning should advance their research in the field of comparative education and explore the accessibility methods of teaching mathematics and natural science subjects to the visually challenged students around the globe. Higher education commission (HEC) should come forward to encourage such projects.

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