Enabling Inclusion of Students with Visual Impairment at Higher Education level

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Abstract

Visualizing education for persons with visual impairment through a lens of inclusive education implies restructuring of academic institutions. This study was designed to examine the enabling features for the inclusion of students with visual impairment at the higher education level. The main objectives of the study were to explore the views of visually impaired students on enabling factors for their inclusion at higher education level, find out the difference among the views of students studying in different higher education institutions. The descriptive survey research design was used to conduct the study. The population was all learners with visual impairments studying at higher education institutions. A total number of 58 students with visual impairment was selected as sample of this study through purposive sampling technique. A structured questionnaire was utilized to collect the data. Content validity of questionnaire was estimated by experts' opinion and reliability was (.78) estimated through Cronbach alpha after piloting. Electronic resources were used to collect the data. The collected data were analyzed through SPSS. Findings showed the government policy, attitude of teachers and sighted peers, flexible curriculum and pedagogies as major enabling feature for the inclusion of SWVI at higher education level. The study recommended an improvement in provision of enabling factors to enhance the overall success rate of SWVI at higher education level.

Keywords: visual impairment, inclusion, enabling, factors, higher education

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Introduction

Inclusive education is a system which embraces the idea of providing education to the all types of learners within regular schools (Nilholm, 2020).This educational system acknowledges the diversity and unique needs of the students and believes on the individual capabilities of all students. Adapting the classroom and learning procedures through revisions and changes in learning content (Sengupta, Blessinger, Hoffman, & Makhanya, 2019) arrangements, and procedures to provide the education without compromising its standards are basic principles of inclusion (Walton, 2016).

In Pakistan there are some institutions of inclusive education where students with visual impaired along with other students are enrolled. The history of inclusive education for persons with disabilities dates back to the PL 94 -142 requiring the provision of an open and appropriate public education for all types of children with special needs without any discrimination in particularly based on gender, ethnic or abilities(Lamichhane,2017). In this connection, the Salamanca statement endorsed the agenda of education for all (EFA) and established that institutions need to support all learners irrespective of their cognitive, racial, emotional and scholastic abilities. In addition to this, recently being adherent of sustainable developmental goals (Boardman & Ranger, 2018), the Government of Pakistan has adapted the SDG as national agenda. Thus, the state parties are trying to take suitable measures to make educational institution more inclusive by establishing least restrictive environment.

Students with visual impairment ranges from no sight to partial vision. Some students have residual vision, can see partially whereas, some are with total blindness. Research studies on inclusion have shown that all types of learners with visual impairment can get benefits from inclusive education. The research study conducted by Sapp and Hatlen (2010) have shown consistently the benefits of increasing access to opportunities for social interaction and learning for children with visual impairment. However, children with visual impairment also requires additional

support like mobility or tactile awareness in addition to access the core curriculum (Davis & Hopwood, 2003).

There are few institutions in Punjab where students with visual impairment are getting education along-with normal peers at higher education level (Thakur & Abbas, 2017). However, in practical there are certain barriers restricting the enrollment rate of visually impaired students at wider level (McLinden, & Douglas, 2013). There are different reasons of the limited enrollment of visually impaired students at higher education level. It is imperative, to identify the gaps between the government rhetoric policy and reality of their experiences regarding inclusion. There is need to find out factors which can culminate the effects of barriers and help in implementation of inclusion in more effective and fruitful way (Collins, Azmat, & Rentschler, 2019). This study is planned in institutions where students with visual impairment are getting education with their sighted peers in inclusive settings while highlighting the certain enabling factors in view of students to increase their enrollment rate and chance of success at higher education level.

Literature Review

Grounded on the principle of "not leaving anyone behind, the sustainable developmental goals emphasize a universal approach for achieving inclusive and equitable educational opportunities for all. In February 2016, Pakistan adapted the SDGs as a national development agenda after passing a common resolution by the National Assembly. Pakistan tried to adapt every step for the welfare of all students of the state including visually impaired students.

There are various elements facilitating the inclusion visually challenged students in regular settings. The literature reported that the use of technology such as JAWS, mobility devices, and reading soft wares are central to the inclusion of students with visual impairment in the regular settings(Dare & Nowicki, 2019).Some of the studies have elaborates attitudes of teachers as key factor in their students' learning. According to (Parsons, 2016), our attitudes are determined by our actions while attitude

motivates actions too. He suggested that the attitudes, actions and expectations of teachers from their visually impaired students enables them to perform well in inclusive settings (Ewing, Monsen, & Kielblock, 2018).

The educational milieu needs to be prudently examined to make it maximum accessible and safe for students with visual impairment. The buildings, classrooms, stairs, doors, hallways and other barriers in mobility of visually impaired students lead to their' frustration as it makes them dependent on others for their survival. Singal (2004) suggested that classroom furniture should be arranged in a manner to facilitate the students' movement within classroom and different portions of buildings for their continuous movement.

Agarwal (2004) contributed through highlighting that for the students with visual impairment, the key to success in the inclusion lies in the appropriate change and modifications made to the curriculum and other classroom activities. Otherwise, these factors could cause barriers in smooth inclusion of such students (Walters, 2010).

To achieve the levels of involvement of SWVI in inclusive classrooms with thick number of sighted students, certain modifications and adjustments must be made to existing educational resources and learning areas (Smith, Polloway, Patton & Dowdy, 2015) so that these students can increase their participation in the classroom tasks. Through the use of accommodation, conversion, and assistive technology access to learning can be provided to the visually impaired students (Pepper (2007). Modifications make learning materials easier even if they are minor. Sometimes changing the seat of a child in classroom facilitates her inclusion. Other modifications may include changes in the way things are presented or the student's response reflects their reading. Most teachers of students with blindness use combination of different methods including recorded lectures and materials in braille print.

Dakwa, (2011) argues that for low vision students, ordinary written material is too small to read and small things that are difficult to see. For them many optical, non-optical and sensory substitution devices are also used for teaching low vision students in regular settings (Lloyd-Esenkaya, Lloyd-Esenkaya, O'Neill, &

Proulx, 2020). Other accommodations include taking help from sighted peers as writers for exams or class assignments. The accommodation during examination includes providing students a copy of the question paper in Braille and extra time (Balanced, 2014).

In addition to the adaptations in curriculum, pedagogies and other settings. UNESCO (2001) argues that developing teacher skills is one of the basic elements for inclusion of students with visual impairment. Teachers need time to develop strategies and empowerment to deal students with visual challenges in inclusion. Mutisya (2010) examined the status of inclusion in Kenya. Her study focused on training of teachers as one of the major contributory factors to teach visually impaired students in inclusive education. The training of teachers in inclusive practices is recommended in many other studies too.

In addition to the enabling conditions mentioned above for the inclusion of students with visual impairment, adaptations in instructions are also highlighted by the literature. Studies recommended to provide teachers additional instruction and assistance where students face difficulties in understanding concepts and needs to be more flexible, provide them specialized support for specific subjects. Particularly in difficult and traditional subjects or provide oral feedback instead of writing (Szumski, Smogorzewska, & Grygiel, 2020). Considering above discussions, the purpose of this research study was to find out some facilitating or facilitating factors for the inclusion of visually impaired students at higher education level.

Research Objectives

The objectives of the study were to
1. Know the views of students with visual impairment about enabling factors for their inclusion at higher education level.
2. Identify the status of existing pedagogies, instructional materials and assessment procedure in enabling the inclusion of SWVI at higher education level.

3. Highlight the difference between the views of students studying at different higher education institutions on enabling factors for inclusion of students with visual impairment.

Methodology and Procedure of the Study

This study was carried out through descriptive research design. The population of this study consisted of all students with visual impairment studying in higher education institutions of Lahore, Faisalabad and Islamabad. To get the firsthand knowledge on the subject matter of this study, the students with visual impairment who are already enrolled in different general/regular higher education institutions were taken for this study.

The selection of the sampling completed in two steps: firstly, a survey was conducted to locate the enrollment of SWVI at higher education institutions. Total seven higher education institutions were found where SWVI were getting education along with their sighted peers. After it only 58 SWVI were taken from these higher education institutions based on their agreement and availability for this study. Out of 58 students, 44 were male and 14 were female. The educational qualification of the students ranged from BS to Ph. D programs. The structured questionnaire (comprised of two main parts) for the interview of the students was developed and got validated. The content validity was estimated through taking opinions of five experts related to the field of special and inclusive education. The reliability of the instrument has estimated through Cronbach alpha formula through SPSS after piloting which was .78.

The data were collected through observing proper protocol of data collection. Due to pandemic situation in the country and lockdown, the data was collected through electronic /online resources. Out of 58 respondents, the interview of 22 respondents was conducted on WhatsApp call, 18 on Zoom, 10 through Skype and 8 from email. The collected data was documented and entered into SPSS after coding (1 to 5). The five-point Likert type scale was used to record the responses of the students against each item. It took 30 to 40 minutes to conduct each interview where internet facility was uninterrupted. Data were analyzed using IBM version

22. Mean of the students' responses and Kruskal-Wallis test was applied to reach the conclusion. Finding and analysis have been presented in the following tables.

Findings of the Study

To know the views of the students on existing enabling factors for their inclusion at higher education level including existing pedagogies, instructional materials and assessment procedure (objective ,1 and 2), and mean and slandered deviation of the students responses against items were calculated and tabulated here. The students were required to respond on 5-point scale. The minimum score for each item was 1 and maximum score was 5.

Table 1

Mean of the SWVI responses against each item related to enabling conditions for their inclusion at higher education level. N=58

Sr.No.	Statements	Mean	SD
1	Current Government policy promotes the inclusion of SWVI at higher education level.	2.78	1.125
2	The positive attitudes of teachers towards SWVI Promotes inclusion.	3.81	1.616
3	The positive attitude of HOD towards SWVI enable their inclusion at higher education level.	2.91	1.559
4	The attitude of sighted peers enable the inclusion of SWVI at higher education level	3.45	1.404
5	Accessible classroom conditions enable the inclusion of SWVI.	3.50	1.536
6	Barrier free institutional environment enables the inclusion of SWVI.	3.16	1.449
7	Provision of content in recorded form facilitates the Inclusion of SWVI at higher education level.	3.16	1.449

8	Access to the library books and other printed materials enables the inclusion of SWVI at higher education level.	2.57	1.428
10	Existing library resources of my department facilitates me in inclusive settings.	2.17	1.201
11	Adapted instructional material facilitating the academic achievement of SWVI.	3.45	1.404
12	Existing instructional material being used for teaching facilitates me in comprehending the content.	2.17	1.201
13	The traditional teaching methods enables the academic success of SWVI in inclusion?	1.36	1.165
14	The printed material given by the teachers keep me part of an inclusive class.	2.72	1.641
15	Flexibility in assessment procedures facilitates CWVI in an inclusive classroom.	3.81	1.616
16	Existing assessment procedure enabling the inclusion of SWVI at higher education level.	2.74	1.250
17	Relaxation in examination timings enables inclusion of SWVI.	3.16	1.449
18	Flexibility in projects/assignments enables inclusion of SWVI.	4.47	.681
19	Use of modern instructional technology enables the inclusion of SWVI at higher education level.	4.10	.892
20	The technology currently available in the institutions facilitating the inclusion of SWVI.	2.95	1.527
22	The mobility and orientation skills of SWVI keep them part of students 'inclusive community at their institution.	4.29	.973
23	Training of faculty member on inclusive education strategies enables the inclusion of SWVI.	4.10	.892

24	The cooperation of administration for inclusion of SWVI enables their inclusion.	3.24	1.443
25	The administration of our institution recommends and support teachers for training on inclusive education.	2.62	1.554
26	Providing teachers free time slots to prepare content for SWVI enables inclusion.	3.81	1.616
27	The teachers of my institution have ample time and resources to adapt the content for SWVI.	2.17	1.201

The above table shows that the positive attitudes of teachers (Mean=3.81) and sighted peers (Mean=3.45), accessible classroom conditions (Mean=3.50), adapted instructional material (Mean=3.45), (Mean=3.81), flexibility in projects/assignments (Mean=4.47), use of modern instructional technology (Mean=4.10), the mobility and orientation skills of SWVI (Mean=4.29), training of faculty member on inclusive education strategies (Mean=4.10) are major enabling factors for the inclusion of students with visual impairment at higher education level.

The other enabling factors as reported by students with visual impairment were flexibility in assessment procedures (Mean=3.81), relaxation in examination timings (Mean=3.16) , the cooperation of administration for inclusion (Mean=3.24), and providing teachers free time slots to prepare content suitable to the needs of SWVI (Mean=3.81).

In addition to this, the table also shows that currently these enabling factors are not existing at ideal level in the institutions where students with visual impairment are included. Students have reported that existing library resources, instructional materials, the technology currently available and provision of free time to the teachers to adapt their pedagogical resources are essential elements for inclusion but are not existing in all institutions.

The question number two of this study exploring the difference between the students' views on existing enabling factors for the inclusion of SWVI was explored by applying Kruskal-Wallis test. The analysis is tabulated and presented in table no.2.

Table 2

*Kruskal-Wallis table showing the difference among the students'
views on enabling factors for inclusion.*

Institution	N	Mean Rank
Punjab University	14	27.94
Education University	6	26.83
GCU* LHR	10	10.17
GCU* Faisalabad	4	43.50
Govt.College for blind, LHR	10	30.60
UMT**	8	8.50
AIOU Islamabad	6	20.00
Total	58	

*Government College University.   **University of Management &
Technology

Table 3

Chi-square and significance value of Kruskal Wallis test.

	Total score
Chi-Square	18.691
Df	6
Asymp. Sig.	.005

The above tables show the difference between the views of
students studying in the different higher education institutes on the
enabling factors for inclusion of students with visual impairment
(sig=.005, Chi-square 18.691.

Discussion

The present study was designed to explore the conditions
which are facilitating the implementation of inclusion for the
students with visual impairment at higher education level. The
study is unique in its nature as it has explored the scenario of
inclusive education by taking the opinions of students who are

currently studying in inclusive higher education institutions in three major cities of the Punjab.

Positive attitude of teachers (Khochen, & Radford, 2012) and sighted peers have been (Van Mieghem, Verschueren, Petry, & Struyf, 2020) pointed out by the respondents of this study as the essential contributory factors to the inclusion of students with visual impairment at higher education level. The study conducted by Asamoah, Ofori-Dua, Cudjoe, Abdullah and Nyarko (2018) has also highlighted the importance of attitudes of sighted peers and teachers towards the inclusion of students with visual impairment as enabling factors for the inclusion of visually impaired students. The study conducted by Ravenscroft, John, et al. (2019) also highlighted the importance of teachers' attitudes for inclusion as facilitating factor. The accessible classroom conditions are also highlighted by visually impaired students as one of the main enabling factors for inclusion.

The study conducted by Carruba (2018) has highlighted accessibility of classrooms and other resources necessary for managing an inclusive classroom. The need of adapted instructional materials and flexibility in projects/assignments are also pointed out by this study. Whitburn, (2014) has narrated the voices of visually impaired students expressing the need of adapted instructional material and classroom assignments for their inclusion in regular settings.

Use of modern instructional technology is highlighted in this study and in many international studies as well (Istenic Starcic & Bagon, 2014).

The need of training of faculty members on inclusive education strategies is highlighted in this study. The use of flexible grouping strategies, fostering collaborative problem-solving strategies, searching for strengths in all learners has been highlighted as inclusive education strategies by the literature too (Oyler, 2001).

Lack of trained teaching staff and inadequate instructional facilities are highlighted by the majority of the respondents of this study. The findings of the study conducted by Okoye and Adirika (2019) are in line with these findings. The cooperation of administration with the teachers regarding provision of resources (Weber & Young ,2017) and free time slots to prepare content

according to the needs of visually impaired students have highlighted by the study (Majoko, 2019).

The students have also shown their reservations regarding missing of some enabling factors in their respective institutions, particularly accessibility of library resources suitable to their needs including talking books (Argyropoulos, Paveli & Nikolaraizi, 2019), provision of latest technology (Okonji & Ogwezzy,2019) and a strategic mechanism of teachers referral for training programs by the administration. The research studies have discussed the role of administration as a vital element to flourish the inclusive process at higher education level (Majoko, 2019).By unfolding the gaps in existing inclusive education structure of Public sector institutions, the study has opened the new horizons for the future researchers in the area of inclusive education.

Conclusions

The study has presented the views of students with visual impairment regarding the enabling conditions for their inclusion at higher education level. The enabling factors highlighted in this study are discussed in many international studies as well. Meeting the global agenda of inclusive and equitable quality education for life -long learning of persons with visual impairment (SDG -4) requires working on factors which facilitates the successful inclusion of students with visual impairment. The mere placement of visually impaired students in regular settings without working on facilitating factors will support the impeding factors to academic success of such students. Hence, we would not be able to achieve the goal of full inclusion of students with visual and other impairments.

Recommendations of the Study

Following recommendations have been made based on findings of the study.
1. The higher education commission should arrange the training sessions for the faculty on inclusive education teaching strategies.

2. The higher education institutions should develop a setup for material development suitable to students with visual impairment.

Limitations of the Study

This study was limited on following accounts.
1. The semi-structured instrument was used to collect the data.
2. Due to the existing pandemic scenario (COVID-19) the sample was taken from seven higher education institutions.
3. A small number of samples was taken as a sample of this study due to the nature of the research problem.
4. The sample was selected by purposive sampling technique, so the finding of the study needs to be generalized carefully.

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