

Challenges and Adaptation Strategies of Students with Disabilities in Higher Education in Bangladesh

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RESEARCH ARTICLE

Abstract

Education is a fundamental human right to which every human should have access. However, in Bangladesh, people with disabilities continue to be denied access to education in a variety of ways; even with the widespread expansion of higher education, they have limited access to it. Also, those who have crossed various barriers and got admission to different higher education institutions face various challenges, including infrastructural barriers and other academic and administrative problems that affect their chances of growing up as average students. Considering this aspect, this article is intended to determine the challenges faced by students with disabilities and their adaptation strategies in higher education in Bangladesh. It applied a mixed-method approach in which quantitative and qualitative data were collected from four leading public universities in Bangladesh. The results indicate that students with disabilities still face a variety of challenges on their campuses. However, to overcome these challenges, they apply adaptive strategies such as using assistive devices, bilingual books, and the help of friends, which are not favorable enough for them to cope with the situation and continue their studies.

Keywords: Students, Disabilities, Challenges, Adaptation, Higher education

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1 INTRODUCTION

People with disabilities have existed since the birth of civilization, and they are a feature of human diversity. However, despite significant advancements in civilization, there was always a tendency to consider them separate entities, and the situation has remained almost the same. In many parts of the world, they are denied the most basic human rights, and they are tortured and deprived in a variety of ways. Their rights have not yet been adequately established. Like many places in the world, the problem of persons with disabilities (PWDs) is a matter of concern for Bangladesh. According to the National Survey on Persons with Disabilities (NSPD) 2021 data, the overall disability prevalence in Bangladesh is 2.80 percent, which is 3.28 percent for males and 2.32 percent for females (BBS, 2022).

Despite substantial advances in numerous sectors, persons with disabilities in Bangladesh remain one of the most marginalized groups. They continue to face discrimination, are socially excluded, and lack access to essential social services in Bangladesh (Farzana, 2018). However, they cannot

be kept out of society or denied their rights to participate in all parts of the physical, cultural, social, and economic environment, as well as education, health, and informal communication (Machado & de Oliveira, 2021). There is no alternative for inclusive and quality education for their overall socio-economic development and mainstreaming. Like many other countries, Bangladesh is committed to establishing inclusive education to promote equal participation for all students. Different regulations and laws in Bangladesh require that equal educational opportunities and accessibility be offered to all students in every school, college, and institution (Ajisuksmo, 2017).

Education is recognized as a fundamental right in the constitution of the People's Republic of Bangladesh. Article 17 of Bangladesh Constitution mentions that the state should educate all children without discrimination. The country has signed the Salamanca Declaration on Inclusive Education (1994) and the United Nations Convention on the Rights of Persons with Disabilities (UN CRPD), which guarantees inclusive education at all levels, including the Higher Education System (Sulaj et al., 2021). Bangladesh has made legislative and policy steps to nationalize these international commitments, including the National Education Policy 2010, the Children Policy 2011, the Children Act 2013, and the Rights and Protection of Persons with Disabilities Act 2013. The Education Policy of 2010 proposes making the necessary measures to support underprivileged students in the educational sector. The Rights and Protection of Persons with Disabilities Act of 2013 detailed the rights to inclusive or integrated education of persons with disabilities based on their needs. They also have the right to a conducive atmosphere in educational institutions to benefit from it (Zaman, 2016).

Despite the national policy mandate, many persons with disabilities in Bangladesh have been deprived of their right to education for various reasons. Notably, the number of students with disabilities at universities is not satisfactory. Those who enrolled in universities face challenges of a different type that affect their academic and social life during their study period. Higher education institutions are not meeting all of the needs of students with disabilities. Therefore, dormitories, dining halls, libraries, and classrooms are all types of buildings that should be accessible to live, learn, and work. Although maintaining the accessibility of all types of students is a requirement for having an inclusive university campus, most university campuses are not fully accessible to them. Physical, architectural, service delivery, learning materials, equipment provision, and attitudinal and cultural influences are all challenges for students with disabilities (Muzemil, 2018). The existence of flaws in the built physical space limits the right to inclusive education (Machado & Oliveira, 2021). Walkways, transit, academic buildings, residential halls, and services like sanitation and information are not well accessible, which causes barriers to making the campus more inclusive. Students with disabilities cannot achieve their educational aims without accessible buildings (UNESCO, 2015).

They have particular challenges in higher education, not just acquiring physical access to buildings but also in curriculum adaptation and accommodation, teaching, learning, and assessment (Ahmad, 2016). They often live in unfavorable environments and are subjected to misbehavior, neglect, and hostility on campuses. Various challenges affect students with disabilities, resulting in prolonged studies or students failing to complete their education in some situations. As a result, potential students with disabilities are discouraged, resulting in a decreased enrolment rate for these students. Not only in policy-making processes and practices but also in research, students with disabilities tend to be substantially underrepresented.

However, they can develop coping techniques that assist them in achieving their educational goals if given a positive attitude and a supportive atmosphere. Due to a lack of research on the subject, very little is known about the challenges and adaptation strategies of students with disabilities in higher education. With this in mind, a study was conducted on students with disabilities in Bangladesh, and it is expected that the results of the study will have a direct impact on students with disabilities and their families. Moreover, the relevant authorities, especially university administrators and policymakers, will gain new knowledge to evaluate the existing challenges and take new steps to ensure higher education for persons with disabilities.

2 METHODS

A research design is a set of rules for data collection and analysis that combines the study purpose's relevance with efficiency in procedures (Kothari, 2004). This study used qualitative and quantitative data because a mixed research methodology allows for a better comprehension of a research problem than qualitative or quantitative data (Creswell, 2008). It included quantitative and qualitative data to understand better the challenges and coping strategies of students with disabilities on university campuses.

The study utilized a survey method to gather quantitative data and a case study method for qualitative data. Data have been collected from four major public universities: Dhaka University (DU), Rajshahi University (RU), Jahangirnagar University (JU), and Chittagong University (CU), all of which are regulated by the University Act 1973 (also known as the Ordinance of 73). According to the statistics of PDF, some 86 physically challenged students are studying at Dhaka University, 110 at Chittagong University, 75 at Jahangirnagar University, and 368 at Rajshahi University (Financial Express, n.d). The research population consists of all the students with disabilities attending the four universities. Population refers to any set of units that share one or more characteristics the researcher is interested in.

It refers to a broader group of individuals, an institution, or something with one or more common characteristics with the subject of a study (Omari, 2011). Considering the COVID-19 epidemic and budget constraints, the sample size was 208. The sample was mainly selected using the purposive sampling method. However, in some cases, snowball sampling was also used because they are known to each other and can help locate the respondents quickly. Samples were selected in the same proportion from the four universities. Eight case studies were conducted to understand challenges and coping strategies better. Both primary and secondary data were collected to complete the study successfully. The current students with disabilities studying at the universities mentioned above were the main source of primary data. The essential secondary information source includes research reports, books, journals, records, and documents of relevant agencies and other online subscriptions. A questionnaire survey using a well-structured interview schedule was conducted to acquire quantitative data. To increase validity, sample questionnaires were pre-tested with the students with disabilities. Qualitative data were collected through the in-depth case interview using unstructured interview guidelines.

The collected data were analyzed and presented following the study objectives. After data collection, all data were edited, processed, and categorized by checking and rechecking. A computer application named Statistical Package for Social Sciences (SPSS) was used to analyze quantitative data. In addition, qualitative data were presented concurrently with quantitative data by the theme, where verbatim quotations were used to comprehend the respondent's exact and actual views.

3 RESULTS AND DISCUSSION

3.1 Demographic characteristics

The present study was conducted on students with disabilities studying at four leading universities in Bangladesh. Table 1 shows the demographic characteristics of the respondents. The exact age has been observed in the case of the SWDs as the age of the general students of the university. The study found that out of 208 respondents, the highest number of respondents (57.7 percent) are between the ages of 20-24 years. This is followed by 25-29-year-old respondents, who make up 34.1 percent, and among the rest, 6.7 percent and 1.4 percent were found to be 15-19 and 30-34-year-old students with disabilities, respectively. Significantly, very few of them are relatively older than others in terms of their level of education.

Table 1. Demographic characteristics

Age of the respondents	Frequency	Percentage
15-19	14	6.7 %
20-24	120	57.7 %
25-29	71	34.1%
30-34	3	1.4%
Sex of respondents		
Male	154	74.0%
Female	54	26.0%
Marital status of the respondents		
Unmarried	194	93.3%
Married	14	6.7%
Source of family income		
Agriculture	136	65.4%
Services	37	17.8%
Business	23	11.1%
Others	12	5.8%
Home type of the respondents		
Pucca	20	9.6%
Semi-pucca	56	26.9%
Tin-shed	121	58.2%
Kutchha	11	5.3%

The male-female disparity at the tertiary level of education in Bangladesh is now relatively lower than that of decades ago. However, in the case of students with disabilities studying at this level, this inconsistency is too high. On the other hand, in terms of general disability prevalence, there is some gender disparity. Males had a slightly greater overall disability prevalence than females, according to census data (BBS, 2015). The study largely found that only 26.0 percent of female students with disabilities can avail or get access to this level of education, which is nearly one-third of the proportion relating to male students (74.0 percent).

That means there is a big challenge for female students with disabilities to access the tertiary-level education system. Related to the marital status of the respondents, this study revealed that only 6.7 percent of them are married. On the other hand, 93.3 percent of the respondents are unmarried. Separated, divorced, or widow/widower – no respondents with this type of marital status were found at any university. Bangladesh is primarily an agricultural country, with agriculture being the primary source of income for the vast majority of the population. The agricultural sector employs about 50.18 percent of the total labor force of Bangladesh aged 15 years and above (BBS, 2019). This trend is also found in the result of this study. Crop, cattle, poultry, fisheries, vegetables, fruits, and farm labor sales were all considered when calculating income from agricultural sources.

It was found that agriculture is the prime source (65.4 percent) of income for most respondents' families. Different types of services are the second source (17.8 percent), whereas business is the third source (11.1 percent) of the respondent's household income. One of the key indications of a family's economic situation is housing characteristics. It is impossible to fulfill livelihood goals without a good and healthy housing facility. According to BBS, there are four categories of housing structures- jhupri (temporary structures made of plastic, polythene, board, scraps, etc.); kutchha (semi-durable structures with walls and roof made of bamboo, wood, leaves, etc. that require some annual upgrading); semi-pucca (semi-permanent structures with brick wall and corrugated sheet roof); and pucca (permanent structure with brick wall and concrete roof)

(Rahman & Gain, 2019). In this study, a new category of housing structure, tin shed, has been added. Table 1 further shows the nature of the respondents' homes, whether pucca, semi-pucca, tin shed, or kutcha. The study found that the home of 58.2 percent of respondents is made up of Tin, 26.9 percent are semi-pucca, and 9.6 percent are pucca. Moreover, 11 (5.3 percent) respondents answered that their families lived in kutcha homes.

3.2 Nature and Causes of Disabilities

Like other countries in the world, Bangladesh also has different types of people with disabilities. The government of Bangladesh classified disability into twelve types in the Rights and Protection of Persons with Disabilities Act of 2013. The most common type of disability among people with disabilities is physical disability (39.0 percent), followed by visual impairment (20.0 percent) (BBS, 2015). The Department of Social Services (DSS) has been conducting a disability detection survey, and it was found that the majority of people with disabilities are physically impaired, making up about 46 percent of all people with disabilities.

People with visual impairment rank second (13.79 percent) after those with physical disabilities, followed by those with multiple disabilities (9.86 percent), intellectual disability (7.67 percent), speech impairment (6.9 percent), cerebral palsy (4.29 percent), hearing impairment (3.17 percent), chronic mental illness (3.5 percent), autism (2.74 percent), audio-visual impairment (0.42 percent), Down syndrome (0.22 percent), and other disabilities (0.74 percent) (The Daily Star, 20 September, 2022). In this study, only two types of persons with disabilities were found among the respondents, most of whom (66.34 percent) are students with visual impairments. This is followed by physical disabilities, which is 33.66 percent, as shown in Table 2.

Table 2. Types, time, and causes of disability

Types of Disability	Frequency	Percentage
Physical	70	33.66%
Visual	138	66.34%
Time of being disabled		
By birth	148	71.2%
Birth to 10 years	51	24.5%
11-20 years	9	4.3%
Causes of disability		
Congenital	131	63.0%
Accidents	26	12.5%
Diseases	44	21.2%
Maltreatment	4	1.9%
Others (burns, stroke)	3	1.4%

A person can be turned into a person with a disability at any time in life. Causing disability may be present from birth or acquired during a person's lifetime due to different causes. In the table, it was found that the majority of the respondents (71.2 percent) developed a disability during their birth. At the same time, the rest were disabled at different times of their lives, as it shows 24.5 percent became disabled in their very early ages of life in childhood, ranging from zero to ten years. Only 4.3 percent of respondents have been turned off anytime between the ages of 11 and 20. Disability can be born or occur by any means at any time of the life span of a human being due to various causes.

Birth complications, childhood malnutrition, genetics, maternal malnutrition, disease rates, lack of early detection, unawareness, lack of access to effective treatment, and poverty are all contributing causes of disability (Ali, 2014). In this study, the causes of disability of the respondents are

congenital accidents, diseases, and maltreatment. Burns, strokes, and some other factors are responsible for the disability of some respondents. The maximum (63.0 percent) number of respondents are found to answer that their cause of disability is congenital. Because of diseases, 21.1 percent have become disabled, while 12.5 percent and 1.9 percent were the victims of accidents and maltreatment relatively. The qualitative data is also in line with the quantitative data. In an in-depth case interview, one respondent of Dhaka University stated:

I am a disabled person since my birth. I do not know the real cause of my disability, but I know a child can be disabled for various reasons. I have heard that my mother suffered from a complicated illness during her pregnancy, which could be responsible for my disability.

Road accident is one of the major causes of disability in Bangladesh. Every year, a good number of people are killed and injured due to this cause. Unfortunately, many of those who are injured turn into persons with disabilities. One of the respondents in this study from Chittagong University said in this regard-

I was traveling to Chittagong for personal reasons one day. Suddenly, the bus I was on collided with a truck approaching from the opposite direction. I lost my senses, and when I regained, I found myself on the bed of a hospital. My leg had been broken badly. Doctors did their best to help me, but I ultimately had to have my leg amputated.

3.3 Challenges Faced by Students with Disabilities

Every person has the fundamental right to access high-quality education. For many others, it is not the case. Some struggle a lot to obtain the education they are entitled to. These are the disadvantaged members of our society, and those with disabilities are among them. Despite adverse situations, some of them are struggling to achieve higher education. However, due to a lack of sufficient accessibility, students with disabilities confront several difficulties at their educational institutions when moving about, living in halls, learning, receiving treatment, and other activities.

A range of challenges faced in movement for students with disabilities was identified in this research as shown in Table 3. and movement lack of ramps is found to be the number one problem, as per the opinion of 78.8 percent of respondents from the four universities. The second most crucial problem faced by them is the lack of suitable roads (68.1 percent), and it is not surprising that respondents from comparatively more busy areas like Dhaka (22.2 percent), Jahangirnagar (21.3 percent), and Chittagong (19.8 percent) are facing this problem mostly. The third problem, according to the respondents, is the lack of assistive devices (65.7 percent), which is mainly faced by respondents from Chittagong University (20.8 percent) and respondents from other universities (Jahangirnagar-17.9 percent, Dhaka-15.0 percent, Rajshahi-12.1 percent) who cited as one of the most affecting problems in their movement. Lack of transportation was identified as the fourth problem (52.7percent), where 15.9 percent of respondents were from Jahangirnagar, 13.5 percent from Chittagong, 12.6 percent from Rajshahi, and 10.6 percent from Dhaka University. During a case study conducted at DU, the participant openly shared his dissatisfaction in the following way,

We face various problems in the movement in the campus area. This is less due to road defects than the arbitrary use of various types of vehicles, including rickshaws. Rickshaws are usually kept wherever we try to move through. They do not consider our movement. Those of us who have been here long have gotten used to it, but the problem has not subsided. As the pressure on the road increases, every road/walkway is busy with vendor shops, vehicles, and pedestrians.

More recently, it is very alarming that many motorbikes are parked on the roads that are not kept in parking spaces. Sometimes, it is placed right in the middle of the walkway. Even we cannot move freely in our hall because of this nuisance. Sometimes, bicycles are placed before the lift.

Table 3. Challenges faced in movement

Movement	Name of university				Total
	DU	RU	CU	JU	
Lack of suitable roads	46 (22.2%)	10 (4.8%)	41 (19.8%)	44 (21.3%)	141 (68.1%)
Lack of ramp	32 (15.5%)	46 (22.2%)	44 (21.3%)	40 (19.3%)	162 (78.3%)
No talking in the lift	31 (15.0%)	9 (4.3%)	35 (16.9%)	20 (9.7%)	95 (45.9%)
Pole in footpath	34 (16.4%)	1 (0.5%)	8 (3.9%)	23 (11.1%)	66 (31.9%)
Lack of transport	22 (10.6%)	26 (12.6%)	28 (13.5%)	33 (15.9%)	109 (52.7%)
Lack of device	31 (15.0%)	25 (12.1%)	43 (20.8%)	37 (17.9%)	136 (65.7%)
Non-cooperation	1 (0.5%)	3(1.4%)	6(2.9%)	1(0.5%)	11(5.3%)
Others	2(1.0%)	3(1.4%)	1(1.0%)	6(2.9%)	13(6.3%)

None of the public universities in Bangladesh can provide full residential facilities to their students, and the services provided in those halls have long complained of various problems such as overcrowded accommodation, poor quality food, unclean toilets, bathrooms, etc. Moreover, students with disabilities suffer significantly from these problems. As such, the researcher intended to find out the extent of these challenges in the residential halls of the studied area. Table 4 shows the result of this fact as it is found that complaints against the low quality of food are cited by nearly all the respondents (88.9 percent), and the problem of having no lift/ramp is opined by 74.5 percent.

Table 4. Challenges faced in the residential hall

Challenges	Name of university				Total
	DU	RU	CU	JU	
No lift/ramp	33(15.9%)	49(23.6%)	32(15.4%)	41(19.7%)	155(74.5%)
No specific room	27(13.0%)	49(23.6%)	8(3.8%)	0(0.0%)	84(40.4%)
Low-quality food	47(22.6%)	51(24.5%)	36(17.3%)	51(24.5%)	185(88.9%)
Problems in the bathroom/ toilet	24(11.5%)	30(14.4%)	22(10.6%)	22(10.6%)	98(47.1%)
No cooperation	10(4.8%)	4(1.9%)	15(7.2%)	6(2.9%)	35(16.8%)
Negative attitude	15(7.2%)	16(7.7%)	21(10.1%)	11(5.3%)	63(30.3%)

The third most crucial problem, as stated by 47.1 percent of respondents, is problems with the bathroom/toilet, which is nearly the same in all the four universities studied here. A large number (40.4 percent) of respondents identified having no specific room as one of the important problems because sharing an overcrowded room with other students is not liable for them. Among all respondents, 25.5 percent argued that the negative attitude of others in the hall towards them is also a problem. These problems vary from university to university, but the problem of low-quality food is widespread in the case of all universities. The problem of non-cooperation (7.2 percent) and negative attitude (9.6 percent) is much more common in Chittagong University than other universities.

This study also tried to identify the challenges regarding the learning of students with disabilities in their university life. Table 5 shows that the highest number of respondents (88.5 percent) identified the lack of trained teachers as the main problem in learning, and the surprising issue is that the most renowned universities did not have trained educators who could provide actual services to their challenged students. A range of technologies can be used to support students in reading, writing, walking, sitting, seeing, and hearing, fostering communication skills, and participating in activities. Even the UN Convention on the Rights of Persons with Disabilities (UNCRPD) recognizes assistive technology to exercise human rights.

Table 5. Challenges faced in learning

Learning	Name of university				Total
	DU	RU	CU	JU	
Lack of Braille book	39 (18.8%)	6(2.9%)	52(25.0%)	28(13.5%)	125(60.1%)
Lack of assistive device	45(21.6%)	31(14.9%)	45(21.6%)	48(23.1%)	169(81.3%)
Lack of trained teacher	36(17.3%)	49(23.6%)	51(24.5%)	48(23.1%)	184(88.5%)
Non-cooperation	11(5.3%)	6(2.9%)	14(6.7%)	17(8.2%)	48(23.1%)
Syllabus not suitable	10(4.8%)	2(1.0%)	24(11.5%)	6(2.9%)	42(20.2%)
No suitable software	36(17.3%)	7(3.4%)	43(20.7%)	43(20.7%)	129(62.0%)
No special classroom	5(2.4%)	8(3.8%)	13(6.3%)	11(5.3%)	37(17.8%)

To ensure this, states must provide necessary assistive technology to enable people with disabilities to exercise their rights to education, work, leisure, participation in the community's cultural life, etc., and freedom of opinion and expression. However, the universities are far behind in rendering this facility to their students with disabilities, and 81.3 percent of respondents think that due to the lack of assistive devices, they face problems in learning. Having no suitable software and lacking Braille books for visually impaired students is the third (62.0 percent) and fourth problem (60.1 percent). Respondents also had their opinion about non-cooperation as the fifth (23.1 percent) and unsuitable syllabus as the sixth (20.2 percent) most suffering problem. In this regard, one case respondent said, like many others,

Academic facilities are not unique to us. Only we are getting free education, no fees - that is all. We also get the opportunity to take the help of a writer following the university rules. There are problems to be faced in getting the scribes for the exam. As far as I know, Dhaka University is very flexible in this regard, where we must be harassed. No initiative is being taken to solve this problem. We get the same class lecture as students without disabilities, and then we record it with the help of others and try to learn by listening to it.

3.4 Adaptation Strategies and Recommendations

Despite having different challenges, the students with disabilities tried to adapt themselves and continue their studies properly. The data on the strategies adopted in mobility, learning, examination, negative attitude, and managing educational expenses are presented here. Besides, their level of satisfaction with the initiative and some of their recommendations are also shown.

The mobility of people with disabilities is constrained as a result of the inaccessible architecture of several establishments. This plays a significant role in the exclusion of people with disabilities from mainstream development activities. People with disabilities still do not have equal access to buildings and public transportation, a problem that still exists. One of the biggest challenges for students with disabilities is moving from one place to another (Ali, 2014). Students with disabilities must go to different places on the university premises for their academic and other needs. Therefore, those students need to adopt strategies for their movement. This strategy depends on their own capacity and accessibility situation. Considering this aspect, Table 6 includes three strategies with self-help as the first option, then using assistive devices, and then seeking help from others if needed. To answer this question, nearly half of the respondents (49.5 percent) argued they use neither assistive devices nor others' help.

Table 6. Movement and Mobility Strategy

Movement strategy	Name of university				Total
	DU	RU	CU	JU	
Self-help	14(6.7%)	45(21.6%)	15(7.2%)	29(13.9%)	103(49.5%)

Assistive device	25(12.0%)	3(1.4%)	36(17.3%)	23(11.1%)	87(41.8%)
Other's help	13(6.3%)	4(1.9%)	1(0.5%)	0(0.0%)	18(8.7%)

They can move with their abilities. Among such respondents, Rajshahi University is the most advanced (21.6 percent), followed by Jahangirnagar University, which is 13.9 percent. In terms of Dhaka University respondents, half (12.0 percent) of them use assistive devices, where one-fourth are self-assisted (6.7 percent), and the remaining one-fourth (6.3 percent) require assistance from others. The rate of using the assistive device is much higher (17.3 percent) among the respondents of Chittagong University. In comparison, only 0.5 percent take others' help, and 7.2 percent depend on self-help. In the context of Jahangirnagar University, the result is entirely different. More than half of the 13.9 percent use self-help techniques, the remaining 11.1 percent use assistive devices, and none have to take others' help. A visually impaired student at Dhaka University hails from a village in Noakhali. She is completely blind, although his gait is almost daily, and she can walk alone in familiar places. About her movement strategy, she said,

'I cannot see anything; I can only sense the light. I do not feel any problem with my movement. My brain is sharp, and I can remember where I went once. However, going to a new place can cause problems. I can even cook for myself. I also iron each of my clothes.

In today's world, an inclusive learning system for students with disabilities is taking an incredible pace, and to make the learning system easy and accessible for students with disabilities, countries worldwide are approaching dimensional reforms in their institutions, policy levels, and academic curricula. From the observations and research done on the learning capacity of students with disabilities, several tools and techniques have been initiated, practiced, and are being modified day by day. Among those tools and techniques, Braille books, audio-visual assistive devices, learning software, etc., are also used by academicians and students at different institutions, though these are not available. In this study, purposively, students with physical and visual disabilities are selected as respondents. However, students with physical disabilities can learn like other students without disabilities. They usually do not have to use different strategies to learn. Table 7 shows that the highest number of respondents (33.6 percent) who are all physically disabled learn with their help. On the other hand, a large number of visually impaired students (27.3 percent) use mobile phones, and 15.4 percent use special software for their learning. The rate of using a tape recorder is abysmal (1.4 percent), but taking the help of classmates is answered by 16.3 percent of respondents. It is also reflected by the statement of a visually impaired case respondent of CU who said,

Academic challenges we try to overcome with the help of others. For example, I prepare any lesson with the help of a friend who records it and then memorize it by listening. There is no other way to learn for students with visual disabilities. Those who can do something for us do not pay attention to us.

Table 7. Learning Strategy

Learning strategy	Name of university				Total
	DU	RU	CU	JU	
With Braille book	6(2.8%)	0(0.0%)	4(1.9%)	0(0.0%)	10(4.7%)
Tape recorder	0(0.0%)	1(0.5%)	1(0.5%)	0(0.0%)	2(1.4%)
Special software	11(5.3%)	0(0.0%)	13(6.3%)	8(3.8%)	32(15.4%)
Mobile phone	16(7.7%)	6(2.8%)	26(12.5%)	9(4.3%)	57(27.3%)
Help of classmates	13(6.3%)	8(3.8%)	5(2.4%)	12(5.8%)	38(18.3%)
Self-help	6(2.8%)	38(18.3%)	3(1.4%)	23(11.1%)	70(33.6%)

Examinations are part of the academic program, and students with disabilities must go through this system. As students with disabilities are differently able, they must appear at the examination

following different strategies approved by the concerned authorities. Students with physical disabilities can write in the exam script just like others. They do not have to follow any other strategy. It is reflected in Table 8, where 33.6 percent of students who have all physical disabilities adopt self-help as an exam strategy. On the other hand, there is a provision to take the help of scribes in examinations that is mainly adopted by all students with visual impairments. Here, 66.4 percent of students belong to this category and take part in the examination with the help of scribes.

Table 8. Examination strategy

Exam strategies	Name of university				Total
	DU	RU	CU	JU	
Self-help	6(2.8%)	38(18.3%)	3(1.4%)	23(11.1%)	70(33.6%)
Scribers	46(22.1%)	14(6.7%)	49(23.5%)	29(13.9%)	138(66.4%)

So far, the society of Bangladesh is not entirely favorable towards persons with disabilities. Educational institutions are also not entirely free from this adverse situation. Students with such disabilities face dimensional barriers in their educational life, like negative attitudes and non-cooperation. At the level of tertiary education, facing these types of barriers is very shameful and, of course, humiliating. However, they try to move forward by dealing with this situation differently. So, it is an excellent question, "What methods do students with disabilities follow to manage these obstacles?" The Table 9 shows that the students with disabilities have adopted different mechanisms like accepting or avoiding the situation. Sometimes, they have protested or something else. Here, it is observed that more than half of the respondents (57.2 percent) avoid the situation, and 26.9 percent of them accept the reality. It is not always possible for the respondents to protest against the negative attitude or non-cooperation, and this reality occurs when it is seen that only 2.9 percent of the respondents are from Dhaka University. In some cases (12.0 percent), respondents manage the situation by motivating people who create the barriers. In this regard, one of the case respondents of CU said,

Usually, I try to deal with the situation myself. Sometimes, my friends, classmates, and even teachers come forward to help me.

Table 9. Negative attitude/non-cooperation management strategy

Strategy	Name of university				Total
	DU	RU	CU	JU	
Acceptance	15(7.2%)	17(8.2%)	10(4.8%)	14(6.7%)	56(26.9%)
Avoidance	28(13.5%)	34(16.3%)	25(12.0%)	32(15.4%)	119(57.2%)
Motivation	1(0.5%)	1(0.5%)	17(8.2%)	6(2.9%)	25(12.0%)
Protest	6(2.9%)	0(0.0%)	2(1.0%)	0(0.0%)	8(3.9%)

Poverty is both a cause and effect of disability. In addition to increasing vulnerability and marginalization, poverty and disability reinforce one another. Compared to other households, families with an individual who has a disability are substantially more likely to experience poverty. These families lack the resources to provide their disabled family members with the necessary care and other expenses (Ali, 2014). It is difficult for families of students with disabilities to afford higher education. For this reason, they try to adopt different strategies to manage the cost of continuing their studies. Table 10 shows the method of managing the educational expenses of students with disabilities, and it is found that almost all (88.5 percent) of their expenses are borne by their families. Only 7.2 percent receive stipends, and another 3.8 percent are trying to cover the expense of education through tuition. It should be noted here that a large number of

students with disabilities are at risk of dropping out of their education if the family fails to meet the expenses.

Table 10. Way to manage education expenses

Manage expenses	Name of University				Total
	DU	RU	CU	JU	
Family bear	43(20.7%)	45(21.6%)	48(23.1%)	48(23.1%)	184(88.5%)
Stipend	7(3.4%)	3(1.4%)	4(1.9%)	1(0.5%)	15(7.2%)
Tuition	1(0.5%)	4(1.9%)	1(0.5%)	3(1.4%)	9(4.3%)

The government of Bangladesh is providing allowances to all disabled persons registered through the Department of Social Services and stipends to students with disabilities. However, there is no provision of scholarships for higher education level students. So, initiatives should be taken to provide financial support exclusively for these students to continue their studies well and smoothly.

Despite the legal provisions, efforts to ensure accessibility for persons with disabilities in Bangladesh are not sufficient. Many of them are excluded from mainstream society and considered backward and marginalized sections of the population. A similar picture is found in educational institutions, especially university campuses, where students with disabilities suffer greatly due to inaccessibility. Recently, the concerned authorities have taken some initiatives for them. However, it is not entirely satisfactory from the point of view of students with disabilities, which is reflected in Table 11. As shown, no one is found who is highly satisfied with the action taken for them. However, the maximum number (62.9 percent) of them is moderately satisfied, which is valid for all the universities. The number of respondents dissatisfied with the initiative is 27.4 percent, and the highest (11.1 percent) is from Chittagong University. It is also observed that a considerable number of respondents (1.4 percent) are very dissatisfied, and a few are not interested in expressing their opinion on this issue, which is 8.2 percent. Qualitative investigation captured the level of satisfaction where one case respondent argued,

We cannot say that the authorities are utterly indifferent to us. We are now studying various subjects, and as university students, we can introduce this with the authorities' initiative. However, it is not enough. Now, the world has moved on. So why should we lag?

Table 11. Level of satisfaction with the initiatives of authority

Level of satisfaction	Name of University				Total
	DU	RU	CU	JU	
Highly satisfied	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Moderately Satisfied	31(14.9%)	42(20.2%)	33(15.9%)	25(12.0%)	131(62.9%)
Dissatisfied	12(5.8%)	7(3.4%)	15(7.2%)	23(11.1%)	57(27.4%)
Very dissatisfied	1(0.5%)	0(0.0%)	0(0.0%)	2(1.0%)	3(1.4%)
No comment	8(3.8%)	3(1.4%)	4(1.9%)	2(0.1%)	17(8.2%)

Recommendations are elicited from respondents based on various perceived needs and problems related to their campus life. In this regard, they gave multiple answers presented in Table 12. As most of them are from low-income families and suffering from financial crises, almost all the respondents (97.6 percent) recommended financial assistance, and 88.5 percent for providing free assistive devices. Mobility is a major challenge for them, and most university buildings do not have lifts or ramps 73.1 percent recommend installing adequate lifts and ramps. Like others, they expect a positive attitude and cooperation from others. Here, it is found that students with disabilities supported positive attitudes (57.7 percent), and they also focused on creating

awareness (48.1 percent). On the other hand, 51.9 percent recommended priority for them during the allotment of residential seats, and it was highest at Dhaka University (15.4 percent) and Rajshahi University (22.6 percent).

Table 12. Recommendations

Recommendation	Name of University				Total
	DU	RU	CU	JU	
Financial help	50(24.0%)	52(25.0%)	50(24.0%)	51(24.5%)	203(97.6%)
Seat allocation	32(15.4%)	47(22.6%)	28(13.5%)	1(0.5%)	108(51.9%)
Easy access road	21(10.1%)	12(5.8%)	42(20.2%)	34(16.3%)	109(52.4%)
Enough lift/ ramp	27(13.0%)	42(20.2%)	41(19.7%)	42(20.2%)	152(73.1%)
Awareness building	25(12.0%)	35(16.8%)	26(12.5%)	14(6.7%)	100(48.1%)
Provide free devices	43(20.7%)	41(19.7%)	50(24.0%)	50(24.0%)	184(88.5%)
Use Road sign	19(9.1%)	5(2.4%)	27(13.0%)	39(18.8%)	90(43.3%)
Suitable syllabus	5(2.4%)	0(0.0%)	14(6.7%)	1(0.5%)	20(9.6%)
Policy formulation	18(8.7%)	14(6.7%)	20(9.6%)	13(6.3%)	65(31.3%)
Positive attitude	35(16.8%)	46(22.1%)	30(14.4%)	9(4.3%)	120(57.7%)
Others	13(6.3%)	0(0.0%)	8(3.8%)	10(4.8%)	31(14.9%)

Accessible roads are also a concern for them; hence, they cannot move freely or smoothly without the help of others. To this question, 52.4 percent of respondents recommended ensuring easily accessible roads. In the table, respondents of Rajshahi University recommend only 5.8 percent for easily accessible roads and 2.4 percent for using road signs. On the other hand, respondents from other universities, especially Chittagong University (20.2 percent), voiced for easily accessible roads and 13.0 percent for using road signs. Similarly, 16.3 percent and 18.8 percent of respondents of Jahangirnagar University support using easily accessible roads and road signs, respectively. Respondents have fewer recommendations (9.6 percent) for appropriate syllabuses and are more interested in policy formulation for their improvement (31.3 percent). In an in-depth case interview at DU, a student with visual impairment suggested,

First, the attitude towards SWD needs to change. For this, various steps have to be taken to create awareness. A change in the attitude of teachers/students is essential. Most students with disabilities must have a Smartphone/laptop. Authorities can provide it free of cost.

In another in-depth case interview conducted in JU, a participant focused on specific issues to ensure accessibility. As he suggested,

First of all, the authorities should understand the problems related to us. We must buy various devices at high prices as they are imported from other countries. The government may provide duty-free or reduced-duty import facilities. Old buildings can be renovated and made accessible. Grooved tiles can be used before stairs, and speaking systems can be installed in lifts.

4 CONCLUSION

Every year, students with disabilities are admitted to higher education institutions to obtain an education so that they can participate in national development in the same way that non-disabled people do. Unfortunately, higher education institutions lack the necessary infrastructure and other facilities to meet the demands of these students with disabilities. However, the number of SWDs is gradually increasing, and they have to stay or visit these buildings for their own needs. Accessibility should be a factor when adapting to building and university infrastructure. For this reason, ramps, lifts, or other measures are required to ensure accessibility. Minor improvements/modifications to the physical structure, like building ramps, accessible bathrooms, wide entrances, and more

significant space in classrooms, of the universities should be made to increase the accessibility of all buildings at the university to promote barrier-free movement for SWDs. University authorities should provide free assistive equipment to these students to ensure their university education. Steps can be taken to give them low-interest loans to purchase devices with suitable software. Braille books, papers, recorded books, and computer software, among other educational materials, must be made affordable and available. The teaching methods should be revised for the SWDs, and the curriculum should be modified per their requirements. Issues related to the education of SWDs should be included in the curriculum to reduce negative attitudes towards them.

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