



Embracing diversity in ASIA through the adoption of Inclusive Open Practices

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WP2 – Development

**D2.1b – Current State of Accessibility in Indian Higher Education Institutions and
their Impact**

Version – FINAL

WP Lead – NTU

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The Current State of Accessibility in India

Equal opportunities and accessibility for persons with disabilities has been one of the primary goals of the Government of India (GoI) for many decades. Various laws were framed and enforced by various departments of the GoI to ensure accessibility in all domains including infrastructure, healthcare, digital platforms, and transport. On the global front, India is a signatory of the Biwako Millennium Framework (BMF) for action towards an inclusive, barrier free and rights-based society for persons with disabilities in Asia and the Pacific [1]. The National Policy for Persons with Disabilities was formulated in February 2006 to create an environment of equal opportunities, protection of their rights and full participation in society. The policy aims to provide access of differently-abled people to a barrier-free environment, education, social security, sports, recreation and cultural life [1]. The policy also aims to ensure inclusion and effective access to education, health, vocational training along with specialised rehabilitation services to children with disabilities [1]. India signed the Marrakesh Treaty in Geneva on 30 April 2014 to facilitate access to published works for persons who are visually impaired, or print disabled [2]. India was also the first country in the world to ratify the treaty by stating its laws Section 52(1) (zb) of the Copyright Act, 1957 on 24th June 2014 [2].

India has been one of the signatories of the UN Convention on the Rights of Persons with Disabilities (UNCRPD) since 2007 [3]. As per this treaty, the signatory government is obliged to take appropriate measures to ensure equal access to all physical environments, transportation, communication technologies and other facilities in both urban and rural areas. Following this treaty, the Department of Empowerment of Persons with Disabilities (DEPwD) of the Ministry of Social Justice and Empowerment launched the Accessible India Campaign, popularly known as Sugamya Bharat Abhiyan, on 3 December 2015, aiming to develop an inclusive society with equal opportunities and universal accessibility to persons with disabilities or 'Divyangjan' (as coined by the Hon'ble Prime Minister in the launch of the campaign) [4]. The motto of the campaign was 'Sabka Saath, Sabka Vikas, Sabka Vishwas', in-line with the Government's resolve to provide universal accessibility [4]. The campaign mainly focuses on the 3 pillars such as environmental, transportation system and Information and Communication Eco-System Accessibility by building accessible environments in buildings, airports, railways, public transport and in accessible communication by adopting best practices such as accessible public television programmes, closed captioning, subtitling, sign language interpreters, accessible entrances ramps and lifts in airports and public transports, accessible toilets, tactile grounds and surface indicators, accessible parking facilities, drinking water, helpdesks and reserved spaces [4]. A Ready Reckoner of Accessibility was also developed as a part of the campaign, with the essential 10 basic features of accessibility in buildings [4]. Around 597 railway stations across India were equipped with lifts or escalators to make them accessible to people with disabilities as part of the campaign [5]. 1,287 escalators were provided at 372 stations and 1,292 lifts at 497 stations till December 2023 [5]. Further, an MIS portal was launched in September 2019 to monitor the campaign and a crowdsourcing mobile application, "Sugamya Bharat App" was launched on 2nd March 2021 [4]. The campaign also laid foundation to many breakthrough initiatives towards accessible tourism and educational sectors and

establishment of “Cross Disability Early Intervention Centers” and “Indian Sign Language Research and Training Center” in 2021 [4].

The Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995 (PWD Act 1995) [6], which was enforced in India in 1996, aimed to ensure equal opportunities for people with disabilities and their full participation in the nation building with major provisions for prevention and early detection of disabilities, education, employment and vocational training, non-discrimination, reservation, research and manpower development, creation of barrier-free environment, rehabilitation, social security, grievance redressal and establishment of homes for persons with seven kinds of disabilities such as, blindness, low-vision, leprosy cured, hearing impairment, locomotive disability, learning disabilities and mental illness. In 2016, the PWD Act 1995 (which was predominantly welfare-oriented with limited provisions for inclusiveness), was replaced with the Rights of Persons with Disabilities (RPwD) Act, 2016 [7]. The Rights of Persons with Disabilities Act, 2016, passed by the Parliament of India was another milestone towards the UNCRPD treaty to ensure non-discrimination, equal opportunity and accessibility of the differently abled. The RPwD Act protects the rights of people with 21 types of disabilities such as cerebral palsy, dwarfism, muscular dystrophy, acid attack victims, hard of hearing, speech and language disability, specific learning disabilities, autism spectrum disorders, chronic neurological disorders such as multiple sclerosis and Parkinson’s disease, blood disorders such as haemophilia, thalassemia, and sickle cell anaemia, and multiple disabilities [1], [2]. The RPwD Act mandates that people with disabilities get equal access to inclusive education, vocational training, and self-employment without discrimination and, buildings, campuses, and various facilities made accessible to the PwD [4]. The Act further provides 5% reservation to persons with benchmark disabilities in all Government institutions of higher education and aided institutions and, 4% reservations in posts of all Government establishments with differential quotas for different forms of disabilities [1]. The PwD Act 2016 recognised atrocities on PwD as a punishable offence with imprisonment of 6 months extendable to 5 years and with a fine [1]. The RPwD act also had provisions for digital accessibility such that it mandates service providers to provide digital resources that reasonably accommodate people with disabilities, failing which companies or individuals can be held responsible and punished for the offences [8]. The RPwD Act was further amended in 2023 to include more public places and online content under the act [9]. The amendment included specific content guidelines for accessible websites. In addition to the RPwD Act, National Informatics Centre (NIC) of India formulated the Guidelines for Indian Government Websites (GIGW) 2009, which include guidelines for the quality and accessibility of content across different government websites [8], [10]. The GIGW guidelines stipulate government websites to “conform to the essential pre-requisites of UUU trilogy, i.e., Usable, User-Centric and Universally Accessible” [2]. The second version of GIGW (GIGW 2.0) was developed by incorporating the feedback from the industry, society and government organisations in 2019, to include world-wide web consortium (W3C) and advancements in technology including guidance on mobile apps [10]. The latest version GIGW 3.0 titled “Guidelines for Indian Government Websites and Apps” contains upgraded guidelines on accessibility of websites and apps to make access to cyberspace more inclusive [10]. The Department of Telecommunications of the Ministry of Communications further released the Guidelines for the Development of e-Governance Applications (“GuDApps”) for mobile applications [11].

The Assistance to Disabled Persons for Purchase/Fitting of Aids/Appliances (ADIP) scheme was launched in 1981, and came into focus in 1995 after the enactment of the PwD Act [1]. The ADIP Scheme provides grants in aid to the various implementing agencies such as National Institutes, Composite Regional Centres, Artificial Limbs Manufacturing Corporation of India (ALIMCO), District Disability Rehabilitation Centres, State Handicapped Development Corporations or other local bodies and CSOs to assist disabled Persons in procuring durable, sophisticated and scientifically manufactured, modern and standard aids and appliances to promote physical, social and psychological rehabilitation of persons with disabilities [1]. The scheme also supports persons with

disabilities for corrective surgeries, whenever required, before providing an assistive device [1]. Aids and assistive devices are distributed to Students with Disabilities (SWDs) studying in classes 9 to 12 (14-18 years of age) on cost sharing with Rastriya Madhyamic Shiksha Abhiyan (RMSA) Scheme of Ministry of Human Resource Development [1].

The Information Technology Act, 2000 deals with ensuring accessibility of websites and apps for people with disabilities using measures such as screen readers for descriptive text for images in websites for visually impaired individuals [9], [12]. The amendments in the Digital Accessibility Guidelines shows India's commitment towards global accessibility standards. The guidelines mandate video captions for persons with hearing disabilities [9]. As accessibility to educational institutions and Universities is very important, Abid Ismail & K.S. Kuppasamy (2018) [13] conducted a study on the accessibility of Indian universities' homepages. The study showed that 73% of the 302 state and central university homepages considered, have medium to high level of accessibility as per WCAG 2.0 recommendations.

The Government of India approved the National Policy on Universal Electronic Accessibility in 2013, which aimed to provide equal access to electronic and other information and communication technologies (ICT) [14]. A "Model Website Accessibility Policy" was introduced by the Ministry of Electronics and Information Technology (MeitY) for improving web accessibility of government websites with inclusive designs and development practices [15]. The Bureau of Indian Standards approved IS-17802 for 'Accessibility for the ICT Products and Services' in 2021 and released a part 2 in 2022 [16]. While Part 1 lays down the accessibility requirements of all web and mobile applications and other electronic media such as audio, tactile or haptic interfaces that allow navigation without vision, the support of Indian Sign Language, operability with assistive technology and text size, frame rate and screen resolution requirements, Part 2 covers conformance, or the test procedures and evaluation methodology for Part 1 requirements [11].

In 'ICT framework for Smart Infrastructure', the Bureau of Indian Standards (BIS) recommended that Inclusion and Accessibility should be the foundational needs for 'Smart' city projects [2]. The 'National Policy on Universal Electronic Accessibility' (NPUEA) was approved by the Indian Union Cabinet on 3rd October 2013 to eliminate discrimination on the basis disabilities and provide equal access to electronics and ICT [16]. The Telecom Regulatory Authority of India (TRAI) issued the "Recommendations on Making ICT accessible for persons with disabilities" in 2018 [2]. The recommendations mainly focussed on ICT access to disabled people and steps to help persons with disabilities in India [2]. The National Digital Communications Policy (NDCP) was released by the department of Telecommunication (DoT) of India in 2018 [2]. The policy included TRAI's recommendations about accessible ICT for persons with disabilities. The mission of NDPC is to 'Connect India' and focused on promoting Broadband for All by 2022 and achievement of universal access through a robust digital communications infrastructure to include all marginalised areas, marginalised communities, women and persons with disabilities [2]. The "Accessibility standards for persons with disabilities in Television Programmes" was launched by the Ministry for Information Broadcasting (MIB) of Government of India, on 11 September 2019 to lay down accessibility standards for television programmes for persons with hearing disabilities with standards for sign language and captioning [2]. The standards mandate accessibility features to be present on television programmes broadcast through both television and on the internet platform. The policy also covers accessibility of end user equipment and Electronic Programme Guides (EPG) [2]. The Policy provides for phase-wise implementation by 2025. The policy played a major role in providing accessibility to announcements, COVID related guidelines and safety related information to persons with disabilities (especially hearing impaired) via captioning, sub-titling or sign language so that they can stay safe and meet their essential needs [2].

The Ministry of Social Justice and Empowerment (MSJE) mandated that COVID-19 information should be disseminated in Braille and audio formats in all states and union territories [2]. The Supreme Court directed the government to conduct a disability audit for the CoWIN website and the Aarogya Setu app to ensure that they are accessible to persons with disabilities [17].

The National Disaster Management Authority (NDMA) of Government of India released the “Disability-inclusive Disaster Risk Reduction” (DiDRR) guidelines in September 2019 to acknowledge the issues and incorporate the needs of disabled people during disasters [2]. The guidelines added to the Article 8 of the RPwD Act 2016 to provide equal protection and safety to disabled people in situations of risk, armed conflict, humanitarian emergencies, and natural disasters with reference to the Disaster Management Act of 2005 that includes provisions to safeguard persons with disabilities [2]. The National Disaster Management Plan (NDMP) has dedicated an entire chapter on ‘social inclusion’ for persons with disabilities as they are ‘more vulnerable’ sections of the population. They have also been included in the DRR mitigation and DRR matrix for all disasters, under the thematic area of ‘capacity development’ [18].

According to Baraj & Goyal (2023) [19], an Accessibility Committee was constituted by the Supreme Court to create a disabled-friendly physical infrastructure and functional processes of the court. As a consequence, all high court websites of India have accessible captchas with both audio and visual captchas [17]. The committee also mandated to ensure accessibility of the websites in terms of text colour, contrast, text size, in terms of screen reader access [17]. The committee also run training programmes for lawyers to make filings accessible [17]. Further, the court directed the Union Ministry of Information and Broadcasting to discuss with the stakeholders for framing guidelines on accessible media so that the persons with hearing and visual impairments can freely access entertainment media. The Bureau of Indian Standards released two standards for providing accessibility to websites, information and communication technology-based public services, electronic goods and equipment by all service providers, government and private sectors [19]. The court of the Chief Commissioner for Persons with Disabilities (CCPD) ordered Practo technologies, a healthcare company, to make its platform fully accessible within six to nine months, following a petition from a visually impaired disability rights lawyer claiming that Practo’s apps are inaccessible to PwDs [20]. The judgement is a key towards ensuring accessibility of digital platforms, especially those offering access to vital goods and services like food, health, and education [20].

The National Institute of Urban Affairs (NIUA) in collaboration with the Ministry of Housing and Urban Affairs (MoHUA) and with the support of the Department for International Development (DFID) of the UK Government implemented the project “Building Accessible, Safe & inclusive Indian Cities (BASIIIC)” through a Technical Assistance Support Unit (TASU) established at NIUA [1]. BASIIIC primarily aims to build sensitive and responsive Indian cities to fulfil the needs of persons with disabilities and implement universal access and inclusiveness [1].

In addition to the government, industry associations and non-governmental organisations (NGOs) also play a significant role in imparting the ideologies of accessibility. The National Association of Software and Services Companies, a trade association of Indian Information Technology and Business Process Outsourcing industry, organised a round table to increase awareness within the country about digital accessibility in 2013 [14]. The Indian Institute of management Bangalore organised a round table on Digital accessibility: Challenges and opportunities in the presence of various stakeholders to discuss the various barriers to digital accessibility, their solutions, and possible next steps to ensure digital accessibility [14]. ‘Inclusive India – Digital First’ conference was organised by various leading technological and banking organizations of the country to prioritize digital accessibility and inclusivity [21]. In addition, there are firms and consultancies in India which work towards accessibility. For instance, BarrierBreak is one such offshore digital accessibility testing and consulting company based in India since 2004, which aims to empower people with

disabilities and the elderly through technology to live independently [22]. Several Indian web applications such as Alipi and Mural Annotations have been developed for improving accessibility for people with physical, linguistic, socio-cultural, or cognitive type barriers [23].

Concise History of Inclusive Education in India

Introduction

Inclusive education is a process of educating all the children in the same, safe environment of a school. It emphasises that all children (including those with different disabilities) play and communicate with each other. Disability should not be a barrier in the education system among the children. Every child is entitled to a high-quality education and learning experience.

Some studies show that children with learning disabilities are ignored in decision making and are also limited in application for higher education and not participating in any of the political or social activities (Singh, 2008). Over the last five decades, the Indian government has worked hard to provide a broad range of services for the education of children with disabilities. In 1883, Bombay established the first school for the deaf, and Amritsar established the first school for the blind in 1887. The first inclusive (Singh, 2008) The government sponsored scheme for Integrated Education for Disabled Children was established in 1974 to offer children with special needs equal chances in mainstream schools and to aid their retention. With the help from government sponsored scheme, the number of schools have increased, including 32 for blind children, 30 for deaf and 3 for intellectually disabled (SCERT, 2007).

The Rehabilitation Council of India Act of 1992 established a training programme for professionals to cater to the needs of disabled students. The National Policy for Persons with Disabilities, published in 2006, aims to establish the framework within which the government, public society, and private sector must function in order to promote a decent standard of living for disabled people and support for their attendants.

Legislation and Policy

The Indian Constitution (26 November 1949) declares unequivocally that everyone has the right to equality of position and opportunity. In certain circumstances, such as disability, Article 41 of the Indian Constitution's Directive Principles supports the right to work, education, and public aid. The later, article 45 ensures the establishment of essential and free education to all children up to the age of 14 years. The Programme of Action (1992) and National Policy on Education (NPE, 1986), focused on integrating children with disability with other children and highlighted that it is very much essential for inclusion and understanding between them. On the 28th November, 2001 the constitution of India stated that all children (including those with disabilities) of the age group 6 to 14 years must have free education. In 1974, the Government of India launched a scheme called Integrated Education for Disabled Children (IEDC) and which offers various educational openings to children with disabilities. This scheme offers free academic labs and conducts special training for the benefit of children with disabilities, and also provides free materials, uniforms and transport. In 1987, the Ministry of Human Resources Development (MHRD) in association with United Nations Children's Fund (UNICEF) started Project Integrated Education for the Disabled (PIED) (NCERT, 2006). The project's main purpose was to get as many disabled children as possible into regular classrooms. The major challenges of PIED are:

- To develop the general educational system in demonstration sites to meet the goal of providing education to all children, including those with disabilities.
- To foster a positive attitude toward students with unique needs in the classroom.

- To raise children's academic achievement. Children with specific needs will be included in the demonstration sites.

PIED was implemented in several states of India especially Delhi Municipal Corporation, Baroda Municipal Corporation, Haryana, Tamil Nadu, Madhya Pradesh, Mizoram, Maharashtra, Nagaland, Orissa, Rajasthan (NCERT, 2006). PIED has had a very positive impact on the attitudes of students, teachers, school administrators, parents, and the general public. In addition, the relationship between disabled and non-disabled children is very positive. During the 1990's, a new approach called the District Primary Education Programme (DPEP) was introduced, which examined key curriculum concerns, such as the reasons certain children's access to education were limited. The DPEP paved the way for children with special needs to get learning opportunities adapted to their specific needs (Rao, 1998). Initially DPEP was implemented in few states with a small number of schools, and has become popular. Between 1998 and 2014, DPEP was successfully implemented in 18 states.

Inclusive Education in Sarva Shiksha Abhiyan

Sarva Shiksha Abhiyan (SSA) is an Indian government initiative intended to ensure that all children receive basic elementary education in a timely way (Ward, 2011). The Constitution of India proposed in the 86th amendment that education should be made freely available for all children from the ages to 6 to 14. In 2011-12, the government of India assigned a budget of 21 crores. SSA grants up to Rs.1200/- per child each year for a disabled children's integration, based on specific requests.

On February 7, 1996, the Persons with Disabilities (Equal Opportunities, Protection of Rights, and Full Participation) Act of 1995 went into effect. This policy is a major turning point in the fight to ensure equitable opportunities for individuals with disabilities and their full participation in the nation-building process. At present, the Government of India provides free education for all children in all states. The Government of India had proposed several acts, and the schemes are listed below:

The Name of the Act /Year

- The Mental Health Act 1987
- The Rehabilitation Council of India 1992
- The Person with Disabilities Act 1995
- The National Trust for Welfare of Persons with Autism, Cerebral Palsy, Mental Retardation, and Multiple Disabilities Act 1999

Ref: Vikaspedia

A List of the major institutes that offer education to all the children are given below:

- National Institute for the Empowerment of Persons with Intellectual Disabilities
- Centre for Disability Studies and Action
- Sanskriti University
- Kalasalingam University
- Netaji Subhash Open University
- Durgabai Deshmukh College of Special Education
- Banaras Hindu University
- Ashtavakra Institute of Rehabilitation Science and Research



- Kalasalingam University
- Amity University

There follows a review of some of the relevant research papers regarding accessibility in India.

Review of Research Articles on Accessibility

Limaye Sandhya, [Factors Influencing the Accessibility of Education for Children with Disabilities in India](#) *Global Education Review*, 3 (3). 43-56, 2016.

Sandhya Limaye (2016) from Tata Institute of Social Sciences highlighted factors influencing the accessibility of education for children with disabilities in India, including the perceptions of parents of disabled children and their difficulties in helping their children with disabilities, the general attitude of society, government officials, school staff and infrastructure, inadequate levels of training of key stakeholders, invisibility of disability in community, poverty, lack of acceptance, lack of interest, gender discrimination, lack of awareness, poor physical access, availability of various support systems, and government policies focusing on the education of children with disabilities. Recommended approaches for improving the accessibility of education of disabled children by promoting overall access to school with the help of different stakeholders such as community leaders, government officers, parents of children with disabilities, Disabled people organizations in facilitating education for children with disabilities by adopting a partnership approach. They provide free and easy movement by providing ramps, transport facilities for accessibility to schools which build the confidence of students. They also organize teacher training refresher courses and community awareness programmes, parental education programmes such as workshops, and training materials to help parents support their child's learning.

Ahmad, Wasim. ["Higher education for persons with disabilities in India: Challenges and concerns."](#) *Journal of Disability Management and Rehabilitation* 1-4, 2016.

Wasim Ahmad (2016) studied the challenges and concerns in India for the higher education of a disabled person. The major challenges in higher educational institutes such as physical inaccessibility, accommodation process, lack of individualization, negative attitudes and stereotypes, moving away from home, securing financial support, meeting the admissions requirements for specific degree programs such as engineering and textiles, and adjusting to differences in disability documentation requirements are discussed. The issues can be addressed by an inclusive education approach, which implies all learners, young people with or without disabilities being able to learn together through access to common provisions and educational support services. The aim is for all stakeholders in the system (learners, parents, the community, teachers, administrators, and policymakers) to be comfortable with diversity and see it as a challenge rather than a problem. In India, the recommendations of 10th and 11th five year plans along with those of the Ministry of Human Resource Development and University Grants Commission (UGC) promote the mainstreaming of persons with disabilities in higher education.

S. Dutt, R. Sharma, P. Suyal and M. Thapliyal, ["An Investigative Study of Long-Term Implication of Extended Reality Applications in Educational Pursuits for Learning-Disabled Population: A Recommendation Approach,"](#) 2022 11th International Conference on System Modeling & Advancement in Research Trends (SMART), Moradabad, India, pp. 69-74, 2022.

Dutt et al (2022) present an investigation on various extended reality (XR) (XR includes virtual reality, augmented reality and mixed reality) applications in promoting education of the learning disabled and outlines its impact on learning. The challenges that are in the development process of assistive technologies for learning disabled are: accessibility challenges, no digital skills, inclusive immersive experience, privacy, physical/mental safety of children, government funds and support and hardware/software issues. On the basis of the findings, a recommendation approach for use of XR in educational pursuits is presented for the concerned stakeholders, the designers, the

developers, the manufacturers, the adopting educational institutions, the special educators and the learners.

Jagtap, Anjali. *A Study of Supportive Technology and other facilities for enhancing accessibility to the students with Disabilities in Higher Education*. Skill Development Centre, SPPU, Pune, 2016.

Jagtap (2016) studied the supportive technology and other facilities for enhancing accessibility to students with disabilities in higher education. The policies and acts are made in order to help the disabled people achieve their rights. Inclusive education means that all children, regardless of their ability level, are included in a mainstream classroom, or in the most appropriate or least restrictive environment, that students of all ability levels are taught as equals, and that teachers must adjust their curriculum and teaching methodologies so that all students benefit.

Sinha, Riya. "An Analytical Study on Accessibility for Person with Disability in India." *LexForti Legal J.* 2: 96, 2020.

Riya Sinha (2020) presented the accessibilities of a person with disability in India. Over 80 million individuals in India are disabled due to factors such as accidents, genetics, age, medical conditions, etc. The conditions for disabled people are improved by the amendments of policies and acts. These acts enforce ease of access to public and private buildings, workplaces, public utilities, medical services, law enforcement agencies and transport facilities, among others. The smart cities, which are recent start-up initiatives, aim to include persons with disabilities in all areas. The Smart City mission ensures access of pathways, junctions, footpaths, bus shelters, crossing and public transportation, accessible parks, buildings, playgrounds, schools, colleges, hospitals, and toilets etc. to the inclusion of disabled people. In 2015, the "Accessible India" campaign was started by Prime Minister Mr. Narendra Modi with the objective of making it convenient for persons with disabilities to access administrative buildings and transport facilities, among many others. The campaign has been launched in several Indian states and they take inspiration from other countries and their technologies.

Gill, Kawal, Rekha Sharma, and Renu Gupta. "Empowering visually impaired students through E-learning at higher education: problems and solutions." *IOSR Journal of Humanities and Social Science*, 22.8: 27-35. 2017.

Gill et al (2017) discuss the problems and solutions regarding the higher education of visually impaired students through e-learning. The problems of e-learning such as availability, accessibility in a holistic way (technological and pedagogical), efficacy and utility of the system are studied along with the opportunities provided by e-learning for the visually impaired students. The e-learning issues are mainly due to lack of knowledge or proper training, Lack of on-line e-learning sources, poor accessibility of websites, availability of books in all formats, lack of descriptions of pictures and images, good screen readers for Hindi and other regional languages, lack of knowledge or proper training, and affordability of original software. The major suggestions to facilitate better e-learning are design the websites in accordance with international standards to benefits the screen reader users, creating on-line libraries to convert books to e-text, audio books and braille books, designing softwares compatible with Indian languages, and proper description of the images, graphs, diagrams, photographs etc. should be provided while preparing e-learning material etc.

Shruti Taneja-Johansson and Nidhi Singal and Meera Samson, Education of Children with Disabilities in Rural Indian Government Schools: A Long Road to Inclusion, *International Journal of Disability, Development and Education*, Routledge, vol. 70, no. 5, pages.735-750, 2023.

Taneja-Johansson et al (2023) studied the education of disabled children in rural Indian government schools. The perceptions and practices of teachers towards the diverse needs of disabled children were examined. The developed laws, policies and programmes for the empowerment of disabled students in India are discussed. Interviews with teachers and classroom observations were used to gather data from six elementary schools in Haryana. The higher education of disabled students is effective only by the co-operation and acceptance of teachers and other students, teacher professional development opportunities and appropriate support structures.

Kunnath, S. K., & Mathew, S. N, Higher Education for Students with Disabilities in India: Insights from a Focus Group Study. *Higher Education for the Future*, 6(2), 171-187, 2019.

Kunnath & Mathew (2019) studied the higher education of disabled students in India. The major challenges, existing facilities and required facility accommodations are explored by the group discussions and studies conducted in six major cities. However, from the statistics it is known that very few disabled students are attending higher education, which can be improved by the enhancing the accessibility, functions in the classroom, accommodations for examinations, communication, social attitude and specialised staff. In India, as a developing country, the major challenges which affect the proper implementation of higher education for disabled students are poor planning, implementation of disability policies, lack of disability sensitization in society and inadequate availability of resources. The main foci put forward by the paper are (a) disabled-friendly architecture, (b) reforms in examination procedures, (c) availability of equal opportunity offices in every college, (d) disability-specific classroom accommodations, (e) assistive technology devices, (f) resource training for teachers, (g) public awareness and (h) employability opportunities and employer training.

Khan, Abdullah, The Representation of Students With Disabilities in Higher Education in India: An Analysis of All India Survey on Higher Education Reports (2010-11 to 2018-19). 10. 124-128, 2020.

Khan (2020) conducted a survey regarding the representation of disabled students in higher education from 2010-11 to 2018-19. From the analysis, participation and accessibility of higher education for disabled students is alarmingly low, shown by the average percentage of 0.2% of places against 5% representation of people with disabilities overall in India. Suggested solutions are a need for special attention by state and central governments, and open school model universities in different parts of the country are put forward by this paper along with upgrading laws and policies to promote the empowerment of higher education for disabled students in India.

Mir, A. A., & Waheed, A., Experiences of Students with Disabilities in Indian Higher Education: An Interpretative Phenomenological Study. *Higher Education for the Future*, 9(2), 186-202, 2022.

Mir & Waheed (2022) explored the experiences of higher education of disabled students in India. The data regarding challenges and opportunities of inclusive education of disabled students within the universities were collected from 24 participants. The findings show that the disabled students face challenges such as perceptions about inclusive education, infrastructure accessibility, physical access, institutional support networks and issues of teacher's attitude towards learning to access higher education. The findings suggest that the institutions need to reconsider and reframe their

inclusive policies and practices and eliminate the barriers that hinder the participation and learning of students at the university level.

Ganapathi, Bonela. "Does inclusive higher education help for physically disabled handicapped people in India? A comparative analysis." *International Journal of Research in Applied, Natural and Social Sciences* 2321-8851, (2014).

Ganapathi (2014) analysed the effects of inclusive education to physically disabled people in India. The ineffectiveness of the programs and policies are visible by the low number of disabled students in higher education compared to school education. A comparative study of accessibility of higher education for both disabled (170) and non-disabled (156) students was conducted in Andhra Pradesh. From these sample groups it is visible that each student had different experiences, disabilities, including time required to understand subjects and meet the demands of their studies, participation in fewer social and extra-curricular activities, and effective use of computers and information technology. From this study it is concluded that there is a gap between the social inclusion of students with disabilities and there is a need to adjust the higher education academic standards for their needs

Arora, R. Access of Students with Disabilities (SWDs) to Higher Education in India with Special Reference to Panjab University, Chandigarh, India. *Indian Journal of Public Administration*, 69(2), 360-371, 2023.

Arora (2023) investigated how more disabled students might attend higher education and what influences both their academic achievement and access, with a focus on Punjab University (PU). The Kruskal-Wallis test (for more than two groups), measures of central tendency: mean and median and standard deviation were used in the statistical analysis. The regression models of log-lin and lin-log were used to calculate growth rate. The enrolment rate of disabled students has increased significantly (5.89%). In India, even though we have a 5% reservation norm, only 2% of disabled students are making use of it because of the various barriers such as physical infrastructure, academic and financial, but they were also prone to the indifferent behaviour of teachers and fellow students in a few instances. In order to improve the accessibility difficulties policies, programmes and ranking facilities to universities based on infrastructure accessibility as a parameter can be added.

Sarkar, Ratan. "Inclusive university: a way out to ensure quality, equity, and accessibility for students with disabilities in higher education." *International Journal of Advanced Research* 4, no. 4 : 406-412, 2016.

Sarkar (2016) highlighted the need of restructuring the universities as inclusive universities in order to ensure higher education for disabled students. One of the main objectives of higher education institutions these days is to provide high-quality education to everyone, without discrimination on any grounds, in order to pave the way for the eventual creation of an inclusive society. The Indian government is installing initiatives by framing various acts, legislation, and launching schemes, and starting programmes to ensure quality, equity and accessibility in higher education (HE) for disabled students. From the data of 2015, out of 722 Indian universities not one is completely disabled friendly. According to the NCPEDP, (2004) research reports only 0.1% of students with disabilities are in mainstream educational institutions at the university level. There are issues with course content, facilities, trained staff, accessibility, unfavourable attitudes, social stigma, educational policy, laws, programs, assistive technology, and devices, as well as the testing and assessment procedures. This creates inaccessibility of higher educational experience at university level for the disabled students. An inclusive university restructuring is required to promote quality, equity, accessibility, student achievement, and high-quality learning. By making a university inclusive, it

helps to achieve excellence in learning, teaching, student development, institutional functioning, and engagement with local and global communities.

Jameel, S. S. (2011). Disability in the Context of Higher Education: Issues and Concerns in India, *Electronic Journal for Inclusive Education*, 2 (7), 2011.

Jameel (2011) studied the issues and concerns of higher education of a disabled student in India. The higher education system is entirely different from school education systems and it will increase the opportunities of employment thereby providing a better life for the disabled students. There are a lot of social groups focusing on school education of disabled students but it is not translated into the entry of higher education institutions. From the analysis of policies and programmes, it is evident that the higher education of disabled students is getting less attention. The major hindrance of disabled students' entry to the higher education institutions are infrastructural facilities, attitudes towards persons with disabilities, transportation facilities, and lack of support services. The efforts of the government from the side of the ministry of human resource development and university grants commission in India helps in mainstreaming disabled students. Disabled students will be empowered by their representation in university forums and student unions along with having equal opportunities for upgrading their skills and sharing their knowledge.

Hasanuzzaman MD, and Shazia Khan "Disability and access to higher education in India." *Chief Parton* 2.10.33: 2-097, 2011.

Hasanuzzaman (2011) investigated the accessibility of disabled students for higher education in India effectively using the data/fact collected from various sources like reports of the Census and NSSO, journals. Higher education is a powerful tool to acquire opportunities for employment, social inclusion and poverty alleviation. According to the World Health Organization, a disability is any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being'. In India, rural areas have less high education accessibility compared to urban areas because of the concentration of universities. Even now, the majority of disabled people are not in higher education, i.e., the literacy rate is low, which is supported by the numbers 645,118 out of 21.9 million. Universities with special education departments and courses at the undergraduate and postgraduate levels that are accessible to disabled students help promote the inclusion of disabled students in the mainstream of society

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