G20 BRASIL 2024

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Task Force 05
INCLUSIVE DIGITAL TRANSFORMATION

A Policy Brief for Inclusive Educational Environment, and Formulating a Universal Design for Disability Friendly Educational Institutions.

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Abstract

Disability is a nuanced term, where it must be understood that it isn't the person that is disabled, it's the environment that makes them disabled. Here, normality is an infrastructure sourced creation, and the disabled people are the ones deliberately left out. Global access to assistive technology remains a concern, with 2.5 billion people currently needing it, projected to rise to 3.5 billion by 2050 Despite high demand, access to Assistive Technology remains limited, especially in low- and middle-income countries, where as few as 3% of individuals have access compared to 90% in high-income nations. Specific needs like mobility and hearing aid access are particularly lacking, with only 5-35% of those needing wheelchairs having them and less than 10% of global demand for hearing aids being met. Nearly one billion people requiring assistive products lack access, primarily in low- and middle-income countries, contrary to the goals of Global Cooperation on Assistive Technology (GATE). Rising noncommunicable diseases and road traffic accidents are expected to further increase demand for assistive devices, exacerbating existing challenges. Articles 5 and 24(1) of the Convention on the Rights of Persons with Disabilities (CRPD) underscore the right to education without discrimination, yet disparities persist. This policy brief underscores the need for teacher training programmes and the inclusion of AT in the national healthcare schemes, to ensure maximum inclusion and a just society. The policy brief will focus on Assisted Technology and tech-based measures to create personalised equipment in education institutions.

Skilled personnel are vital for the effective provision of assistive products, and without them, assistive products may be ineffective, unused, or even pose physical risks and reduced cost of AT by government subsidies, establishing a standard price for AT, grants to manufacturers, mass production, cost-sharing, integrating mainstream technologies with accessibility and buying devices that can be used by multiple users, which could all

be done by the integration of AT in the national health welfare scheme. The G20 countries have both a duty and an obligation (in terms of ratifying CRPD), whereby a channelized endowment needs to be put forth and a more encompassing convention needs to be introduced so that it creates a binding force on the nations to take up this issue.

Diagnosis of the Issue

Schools play a crucial role in children's development, offering exposure to diverse perspectives and nurturing social and cognitive skills. However, children with special needs often face societal perceptions of disability, realising their divergence from norms due to inadequate accommodation in infrastructure and attitudes. The child would be able to function normally if the society, the people around him and the infrastructure around him was accommodative of its special needs. The greatest barriers to the inclusion of children with disabilities result from inaccessible environments.

The subsequent weeding out of these barriers is exactly the aim of Assistive Technology (hereinafter AT for brevity). An assistive technology service is defined as, *"any service that directly assists an individual with a disability in the selection, acquisition, or use of an assistive technology device"* It is virtually everything that could be used to overcome the lack of certain abilities.

The absence of assistive technology (AT) in the education sector leads to hindered development, limited engagement of the child with their surroundings, decreased employment opportunities, heightened dropout rates from educational institutions, lower rates of primary school completion, increased likelihood of poverty and unemployment in later life (resulting in missed potential and wasted human resources), and diminished household income due to caregiving demands. Disabled children face greater challenges accessing education compared to their non-disabled peers, especially in lower-income countries. The ineffective and inefficient use of assistive technologies is seen to be a major obstacle hindering inclusion.

A study centred in South Asia found a significant correlation between disability and negative outcomes in education, employment, and marriage, as per which in Bangladesh, India, and Maldives, the gap in out-of-school rates between children with and without disabilities was 48.1%, 33.3%, and 9.2% respectively. In Nepal, only 35.8% of individuals with disabilities had access to primary education compared to 52% of those without disabilities. In India, a study showed that children with normal hearing outperformed those with hearing impairments in all question types. Disabled children are 47% more inclined to be excluded from primary education, 33% more inclined to be excluded from lower-secondary education, and 27% more inclined to be excluded from upper-secondary education.

Investing in assistive technology for students with special educational needs is crucial to overcoming barriers and maximising their educational potential. Herein lies the pivotal role of the G20 nations. The Brazilian Presidency of G20's motto, "Building a Just World and a Sustainable Planet," resonates with the primary goal of Assistive Technology (AT) – to create a normal and inclusive world for everyone, irrespective of disabilities. Access to AT fosters inclusion and equal opportunities, aligning with principles of justice, equity, and human rights. It empowers individuals with disabilities, promoting independence and dignity, crucial for a just society. Affordable AT also bridges the digital divide and reduces inequalities, contributing to a more inclusive world where no one is left behind.

The challenges to widespread adoption of Assistive Technology (AT) include high costs reducing access, gaps in suitable products and provision, lack of awareness, and discrimination due to policies and non-inclusive environments. On the supply side, issues include limited capacity for production and provision, workforce shortages, inefficient delivery, market fragmentation, and obstacles to market entry.

The low policy profile and limited local, national, and international standards further weaken the quality of assistive technology. A WHO study in the Western Pacific region found that assistive technology procurement is inadequately integrated into government budget cycles, resulting in minimal and inconsistent funding allocation.

As a response to all this, studies have demonstrated that access to assistive technology enhances involvement in socioeconomic activities and diminishes poverty and hunger for both users and their households. The opportunity cost for not increasing access to AT is much greater spending resources on AT. A study in Indonesia revealed that limited access to AT was costing the government 7% of its GDP annually.

Recommendations

In order to ensure children with disabilities have access to the necessary tools and resources to overcome barriers and participate fully in society, proper training of personnel in effective use, proper assessment, fitting, user training, and follow-up is required. Expertise, training, acceptance, curriculum adjustments, and technology integration are critical factors for effective assistive technology utilization in inclusive education.

A systematic review underscored the diverse benefits of Assistive Technology (AT) for students with disabilities (SWD) but noted that inadequate training could hinder its effectiveness. Insufficient pre-service training in Assistive Technology (AT) hampers its effective integration and utilisation for students with disabilities. This study showed that students' proficiency and use of AT depend heavily on their teachers' expertise in AT. Furthermore, the preparedness of teachers is the main predictor of students' utilisation of Assistive Technology (AT).

This highlights the "personnel" aspect of the WHO's 5P Model, a benchmark in the field of Assistive Technology policy-making.

Source: World Health Organization (WHO) Available at: https://www.who.int

Skilled personnel are vital for the effective provision of assistive products, and without them, assistive products may be ineffective, unused, or even pose physical risks. Conversely, there's a shortage of trained personnel to deliver assistive products. A study at Northern Illinois University's College of Education found that integrating Assistive Technology (AT) into teacher training programs resulted in a consistent positive shift in perceptions towards AT. This ensures that the majority of the teachers were accommodative of the AT. Another study revealed that most teachers exhibit a keen interest in expanding their knowledge of Assistive Technology (AT).

It discovered that training fosters seamless integration of Assistive Technology (AT) in classroom settings. This study also found that proper teacher training enables skill application and fosters conducive learning environments for children with disabilities. Another study concluded that training teachers in essential skills ensures competence, leading to improved learning outcomes for students with autism using AT. Also, attitudinal bias is a key obstacle to change. Comprehensive training for educators and caregivers can promote greater acceptance of Assistive Technology (AT), reducing stigma around children with special needs.

Lastly, initial investments in AT training may incur costs, they are outweighed by the potential long-term benefits. Research has shown that the use of AT can lead to cost savings by reducing the need for specialised instructional support, minimising the need for costly accommodations, and improving overall educational outcomes for students with disabilities.

This can be achieved by utilising Training in Assistive Products (or TOP) formulated by WHO. TAP is a flexible modular training resource that can be tailored to the specific needs of the local environment. This can be done by blending online learning with clinical practice.

The pilot coverage of TAP had been conducted in India to ascertain the challenges that might occur in its implementation. It was concluded that over 60% of learners found the modules very easy to navigate and learners with no previous experience with elearning and/or low computer literacy encountered only minor challenges in accessing TAP. The challenges that were discovered included language barrier and there was difficulty in understanding technical terminology. It was also recorded that over 60% learners acquired sufficient practical skills by the end of the sessions.

The second policy measure is the <u>adaptation of AT as a part of the National Health Coverage Schemes</u>. Integrating Assistive Technology into the National Health Coverage Scheme is crucial to ensuring children with disabilities access necessary tools for full societal participation.

National health coverage schemes, such as national health insurance programs, are designed to provide comprehensive and affordable access to essential healthcare services for all citizens, regardless of their socioeconomic status or geographic location. This is in line with the goal of Universal Health Coverage (hereinafter UHC, for brevity). UHC

ensures that everyone has access to high-quality health services whenever and wherever they need them, without experiencing financial difficulties.

Through resource pooling and risk distribution, these schemes prevent catastrophic out-of-pocket expenses for medical care, safeguarding individuals and families from healthcare-induced poverty. A significant number of individuals acquiring assistive technology face substantial out-of-pocket expenses, making them 50% more susceptible to encountering catastrophic health expenditures.

Taking India for example, about 71% of healthcare expenditures are covered by out-of-pocket expenses (OOPE). This places an immediate financial strain on impoverished households and also ensnares them in a perpetual cycle of poverty. Out-of-pocket health expenses undermine financial risk protection and hinder access to healthcare. A cross-sectional study in Kerala's tertiary care hospital found that insured individuals had notably lower out-of-pocket expenses than uninsured patients, however it noted a significant portion of the district lacks insurance coverage, underscoring the need for awareness campaigns to increase enrollment rates. A study had also revealed that cancer patients without insurance typically experience worse outcomes and are at a higher risk of premature death compared to insured individuals, primarily due to delayed diagnosis.

It is to be noted that for proper inclusion of AT into the national health coverage schemes, there is a need for the adoption of a list of AT products that are considered essential. WHO has curated an Assistive Product List (APL). This priority list includes AT suited for different kinds of disabilities. The states can adopt this list which will serve as a model list, whereby more products can be added to meet the needs of its people.

Scenario of Possible Outcomes

1. Mandatory AT Training

On the positive side, numerous studies have highlighted the transformative impact of AT training for educators. A report by the Assistive Technology Industry Association (ATiA) found that teachers who received comprehensive AT training reported increased confidence, competence, and willingness to use assistive technologies in their classrooms.

However, the implementation of mandatory AT training for teachers may also present several challenges and potential trade-offs that need to be carefully addressed.

Training all teachers in a school district or country in specialised AT can pose significant financial and logistical challenges, requiring substantial investments in programs and ongoing professional development. Notwithstanding this, it is still argued that AT is cost-effective by providing greater gains and output in the long run. In the United States, studying the curriculum with technology-enhanced learning resulted in an average cost reduction of 31% in delivery expenses.

Mandatory AT training could exacerbate teachers' workload, stress, and burnout, potentially impacting retention and instruction quality. A qualitative analysis found high levels of burnout, anxiety, and depression among teachers.

Despite the potential benefits, some teachers may resist or express scepticism towards mandatory AT training, particularly if it is perceived as an additional burden or if they lack a clear understanding of its importance and relevance. A study by the National Library of Medicine found that despite significant investments in digital technologies for education, many are not adopted in classrooms due to teachers' concerns, minimal awareness, and limited involvement. This study however also corroborates that teacher training programmes would lower the scepticism levels present and reduce biases.

Resource allocation for AT training must consider opportunity costs and ensure it does not detract from other essential educational needs. Another underlying concern is the curricular trade-off. Training in AT shouldn't compromise existing teacher training components or increase teacher burden and decrease job satisfaction.

2. Inclusion in National Health Coverage Scheme

This will lead to increased inclusion and affordability. AT will become more financially accessible to people and it will result in reduced out-of-pocket expenditure. There will be improved independence and quality of life, and a substantial reduction in long term healthcare costs. Enhanced education and employment, reduced dependence on caregivers, UHC, personalised learning, reduction in achievement gaps and disparity etc. could also be observed.

However, one of the primary contradictions that may emerge is the tension between the potential benefits of increased access to AT and the associated costs. While the inclusion of AT products in national health coverage schemes can improve independence, productivity, and overall quality of life for individuals with disabilities, it also represents a substantial financial commitment for governments and healthcare systems.

Moreover, the successful implementation of AT coverage within national health schemes hinges on the availability of trained healthcare professionals and support staff. Addressing this shortage may require substantial investments in education, training, and workforce development, potentially diverting resources from other healthcare priorities. This reveals a potential trade off in the nature of divesting the resources from other healthcare needs. Furthermore, the adoption of AT coverage within national health schemes may necessitate extensive infrastructure and logistical considerations.

References

World Health Organization. "Assistive Technology." World Health Organization. Accessed March 30, 2024.

Gal, Eynat., Schreur, Naomi. and Engel-Yeger, Batya. (2010): Inclusion of Children with Disabilities: Teachers' Attitudes and Requirements for Environmental Accommodations. International Journal of Special Education vol. 25 no 2

Center for Parent Information and Resources. "Assistive Technology in Action." Parent Center Hub. Accessed April 1, 2024. Reed, P. and Bowser, G. (2005): "Assistive technologies and the IEP" in Edyburn, D., Higgins, K., Boone, R. (Eds.) Handbook of Special Education Technology Research and Practice. Knowledge by Design Inc. Whitefish bay.

UNICEF. "Global Report on Assistive Technology." UNICEF Oman. Accessed March 29, 2024.

Chitiyo, M. (2007): "Special education in Zimbabwe: Issues and trends" The Journal of the International Association of Special Education, vol. 7, no. 1, pp. 22-27.

Eide, Arne H., Kamal Lamichhane, and Sagar Gautam Neupane. "Gaps in access and school attainments among people with and without disabilities: A case from Nepal." Disability & Rehabilitation 43, no. 14 (2021): 1995–2000. doi: A study on performance of normal hearing and hearing impaired children in Bengali subject." ISROSET. Accessed April 1, 2024.

"Learning Together: The Effects of Inclusion of Students with Disabilities in Mainstream Schools." Emerald Insight. Accessed March 26, 2024. "Brazil: Education at Risk for Children with Disabilities." Human Rights Watch. December 10, 2020.

United Nations. 2006. Convention on the Rights of People with Disabilities. NY: Author. Available at:

World Health Organization Regional Office for the Western Pacific. "Assistive Technology Procurement Study: Technical Report." Manila: World Health Organization Regional Office for the Western Pacific, 2020, Report No. 140.

Albala, Sofia A., Kasteng, Frida, Eide, Arne H., and Kattel, Roshan. "Scoping Review of Economic Evaluations of Assistive Technology Globally." Assistive Technology 33, no. suppl. 1 (2021): 50–67.

McNicholl, Aoife, Hannah Casey, Deirdre Desmond, and Pamela Gallagher. "The Impact of Assistive Technology Use for Students with Disabilities in Higher Education: A Systematic Review."

Alsolami, Abdulaziz S. "Teachers of Special Education and Assistive Technology: Teachers' Perceptions of Knowledge, Competencies and Professional Development. DOI: Alsolami, Abdulaziz S.

Gips, Amy, Philip A. DiMattia, and James Gips. "The Effect of Assistive Technology on Educational Costs: Two Case Studies." Accessed March 29, 2024. URL:

World Health Organization. "Training in Assistive Technology Products." WHO. Accessed March 29, 2024. URL: / World Health Organization. "TAP First Pilot Report." "Universal Health Coverage." UICC. Accessed March 29, 2024.

Reshmi, Bhageerathy, Bhaskaran Unnikrishnan, Eti Rajwar, Shradha S Parsekar, and Ratheebhai Vijayamma. "Impact of Public-Funded Health Insurances in India on Health Care Utilisation and Financial Risk Protection: A Systematic Review." BMJ Open 11, no. 12 (Year): e050077. Accessed March 29, 2024.

Harish, Ravindran, Ranjana S. Suresh, S. Rameesa, P. M. Laiveishiwo, Prosper Singh Loktongbam, K. C. Prajitha, and Mathew J. Valamparampil. "Health Insurance Coverage and Its Impact on Out-of-Pocket Expenditures at a Public Sector Hospital in Kerala, India." Journal of Family Medicine and Primary Care 9, no. 9 (2020): 4956–4961.

WHO Assistive Technology. Accessed March 29, 2024.

Assistive Technology Industry Association. Accessed March 29, 2024. URL:

"Rebooting learning for the digital age report Higher Education Policy Institute. Accessed March 29, 2024.

Agyapong, Belinda, Gloria Obuobi-Donkor, Lisa Burback, and Yifeng Wei. "Stress, Burnout, Anxiety and Depression among Teachers: A Scoping Review." Journal Title Volume, no. Issue (Year): Page numbers. Accessed March 29, 2024.