

Supporting participation and inclusion of individuals with Disabilities through Assistive Technology

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ABSTRACT

Person with disabilities (PWDs) is the one of the most stigmatized, excluded and disenfranchised groups in India. They are likely to have poorer health, less education and employment opportunity. Even when they grow up, they live in extreme poverty, illiteracy and face more inequalities and prejudices than their counterparts without disability. Apart from this, girls with disabilities face double discrimination due to gender, disability and other compounding factors such as poverty and ethnicity. Approximately less than 10% of children with disabilities in low-income countries, including India, go to school. Besides poverty and prejudice, the lack of access to assistive technology (AT) and inaccessible school environments are major barriers, which restrict PWDs to access education, to gain joyful employment and to participate in the civic life as well as in the society at large. This article discusses an evolving understanding of assistive technology and its relationship with disability. It also explains how assistive technology can support the active participation and full inclusion of IWDs in very spheres of life.

***“For most people, technology makes things easier.
For people with disabilities, technology makes things possible.”***

--Mary Pat Radabaugh

1. Introduction

The World Health Organization estimates that 10% of any population is having disability of one type or the other (Thomas, 2005). Recent estimates suggest that 85-90% persons with disabilities (PWDs) reside in developing countries. In India, there is no clear estimate on number of people with disabilities (Jeffery & Singal, 2008). However, the data of Indian census (2011) which was collected based only eight types of disabilities revealed that 2.21% (26,810,557) of total population fall under certified (Persons with Disabilities) PWDs category. Data also revealed that the country's population of PWDs is on rise. The number of PWDs, which was 2.19 crore in 2001 rose up to 2.68 crore in 2011 showing decadal rise by 22.4%. In addition, World Bank (2007) reported that the real prevalence of disability in India could easily be around 40 million, and perhaps as high as 80-90 million if more inclusive definitions of various disabilities were employed. It is evident from the mentioned data that the PWDs are forming a huge chunk of the total population in India. Hence, it's quite obvious that India can't afford to neglect such a huge portion of people if it has to ensure inclusive growth and sustainable development of the country. Moreover, it is a subject of human rights too to ensure equal opportunities, protection of rights and full participation for PWDs in all the areas including education, employment and social inclusion. As a result, the Government of India has come up with numerous educational policies over periods of time with special focus on PWDs in order to promote education, employment and social security for all without any discrimination on any grounds. The latest and most remarkable one is the Rights of Persons with Disabilities (RPWD) Act, 2016 which fundamentally aims to put into action the principles cherished in the United Nations Convention on the Rights of Persons with Disabilities, 2006.

Furthermore, despite all strides, till now PWDs are one of the most stigmatized, excluded and disenfranchised groups in the world and especially in India. They are found to have the poorest health condition, least education and economic opportunity. Even when they grow up, they are likely to live in extreme poverty, darkness of illiteracy and deal with greater inequalities and prejudices than their counterparts without disability. Additionally, girls with disabilities face more discrimination due to gender, disability and other compounding factors such as poverty, religion, culture and society. Research revealed that approximately 1 in every 10 children in the world is having some kind of disability and less than 10% of children with disabilities in low-income countries, including India, go to school. Besides poverty and prejudice, the lack of access to assistive technology (AT), as well as inaccessible transport and school environments are major barriers, which restrict PWDs to access education, to gain joyful employment and to participate in the civic life as well as in the society at large.

The Rights of Persons with Disabilities (RPWD) Act, 2016 makes commitment to take all necessary measures to ensure equal participation, full enjoyment of all human rights and fundamental freedoms by PWDs on an equal basis with other individuals without disabilities. Additionally, the RPWD Act (2016) also, in its several sections, recognizes and spells out the importance of access to AT for PWD and promises to ensure its availability at an affordable cost. Assistive technology has been found to be the first step for any next steps: for an individual with disability to take part in sports and games with other persons with or without disability; go to school and be educated; to gain joyful employment, to communicate effectively with others; to become a successful, skilled, contributing and productive member of society. The present discussion paper aims to explore the concept of AT. It also talks about the importance of AT and explains how it can play a critical role in supporting active participation and full inclusion of individuals with disabilities in all spheres of life.

2. An Evolving Understanding of AT and its Relationship with Disability

Assistive technology can be a device or a service. It includes hardware, software electronic devices and any types of tool except medical devices that is surgically implanted. Even information and communication technologies (ICTs) that are used to support PWDs are commonly referred to as AT. There is no one single internationally accepted definition for this term. According to Assistive Technology Act of 2004, 'an assistive technology service means any service that helps an individual with a disability select, acquire, or use an assistive technology device. Assistive Technology as an educational aid helps the persons with disabilities involve in the regular curriculum, academic assessments and accomplish their educational goals with ease like their counterparts.' Abbott (2007) has stated that 'a wider definition of assistive technology allows for a more flexible and inclusive approach and goes on to propose the term inclusion and suggesting that a focus on the social model of inclusion is supported in the learning context by a focus on three areas of ICTs usages, namely technology to train and rehearse; technology to assist learning and technology to enable learning.' The British Assistive Technology Association (2011) focusing on AT for inclusion in education stated that: 'assistive technology is any item, equipment, hardware, software, product or service which maintains, increases or improves the functional capabilities of individuals of any age, especially those with disabilities, and enables them more easily to communicate, learn, enjoy and live better, more independent lives.'

3. Assistive Technology and Disability: A Discourse

Very recently the World Health Organization (WHO) has stated that only one in ten persons with disability has access to assistive technology. The lack of access of assistive technology has an impact on the life of the concerned persons with disability (PWDs), but also on their family and the society. It is a fact that without an appropriate assistive technology and device, the PWDs are isolated and segregated from every sphere of life and thus they are trapped in the vicious circle of poverty. People with disabilities experience discernible barrier in performing daily living activities and accessing education, health, rehabilitation, employment and recreational services. They regularly encounter stigmatization, discrimination and inequalities. An extensive number of studies has confirmed that disability disproportionately and adversely affects women, children, older and poor people and other vulnerable groups in the society. The WHO in its "Global Disability Action Plan 2014-2021" has recognized that "disability is a priority because of its higher prevalence in lower-income countries and because disability and poverty reinforce and perpetuate one another." However, to help persons with disabilities to fulfill their potential in a more inclusive and enabling Society the first step is to ensure their access to the assistive technology and devices and all forms of required rehabilitation services. Without that prerequisite, PWDs don't have ways to become independent and contributing member in the society. Additionally, assistive technology and device is the single and most powerful tool to enable PWDs to advocate for their rights.

4. Role of AT in Supporting Active Participation and Inclusion of PWDs

- Appropriate AT can be a powerful tool to increase a child's independence, confidence, motivation and participation. It can help PWDs become mobile, communicate more effectively, see and hear better, and participate more fully in learning and play activities. Assistive technology supports PWDs to access and enjoy their rights and participate in things they value - and it bridges the inequalities between persons with and without disabilities.
- An educated PWD supported by AT will have greater opportunities for employment, resulting in less dependence on welfare and social security measures, and their greater contribution to the country's economy.
- Every student with disabilities deserves and has the right to a quality education. Use of AT in education is more critical today than ever before since it offers powerful learning environments and can transform the teaching-learning process in such a manner that all students irrespective of their disabilities and other conditions can deal with knowledge in an active, self-directed and constructive way.
- Assistive technology has great potential to execute the principles of Universal Design of Learning and ensure access for all learners. It makes everyone's lives easier, but for students with disabilities, AT can make learning more engaging, effective and meaningful than ever thought possible. When AT is appropriately integrated into the regular classroom, students with disabilities are provided with multiple means to learn, engage and express their learning outcome and thus it enables them to access the general curriculum like others.
- Approximately 15% to 20% percent of the general population is in need of some type of 'cognitive assistance'. Additionally, a large population of students 'at risk' needs assistance for they do not easily fit into a diagnostic profile of disability and do not receive assistance; if AT is made available to everyone, these students can also benefit.
- Teachers can work with more numbers of students with differences in their conditions more effectively at any point of time with the help of AT in inclusive settings.
- Assistive technology is an equalizer. When PWDs use AT, they are seen as more capable by peers. Persons with physical disabilities with poor IQ have more scope for engaging and learning with modified AT.
- Most importantly AT helps in creating least restrictive environment by removing all forms of barriers that restrict students with disabilities to access education and perform other functions of life and thus help to

become an independent, skilled and contributing member in the society.

- People with physical disabilities, for greater independence of mobility and travel, may use mobility aids, such as wheelchairs, scooters, and walkers. Adapted car seats and vehicle wheelchair restraints promote safe travel. Assistive technology also assists PWDs to do daily living tasks, such as- cooking, dressing, and grooming independently.
- With the help of assistive technology and devices persons with disabilities can take part in the games, sports and other recreational activities actively. Sports and recreation are important modalities of rehabilitation. As these volitional factors influence choice about action and behavior of an individual, be he/she with disabilities or without disabilities, these have a key role in enabling an individual to adapt to disability and reengage in life (Kielhofner, 2002). Moreover, the more our life is filled with things that interest us, the higher our satisfaction with our quality of life (Kielhofner, 2002). Consequently, it can be

inferred from the above discourse that assistive technology is a powerful instrument to support and promote inclusion of PWDs in all realms of life in line with the goal of 'Inclusion'.

5. Conclusion

Undoubtedly AT has an important role to ensure the active participation and full inclusion of PWDs in all spheres of life and in society at large. The most important thing that one needs to understand in this connection is the difference between what to be remediated and what to be compensated for the PWDs. Apart from these, more efforts should be made on making people aware about how AT can be useful to address various challenges experienced by PWDs. Steps should also be taken for; development, advancement and adaptation of various AT keeping in mind the Indian context ensuring its affordability. Last but not least, everyone needs to conceptualize the fact that the technology is the doorway to education, education is the doorway to literacy and literacy is the doorway to quality life for PWDs.

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