Chapter 22
Use of Assistive Technology to Empower Persons with Intellectual Disabilities

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ABSTRACT

This chapter focuses on the use of assistive technology in persons with Intellectual Disabilities (IDs). Persons with IDs have significant limitations, both in intellectual functioning and in adaptive behaviors. The use of assistive technology is essential to help persons with IDs and make them independent in all spheres of life. Assistive technology devices and services can be used to teach, train, rehabilitate, and empower persons in a variety of daily activities viz. new learning, home living, employment, health and safety, communication, social activities, protection and leisure. Empirical studies suggest that assistive technology is effective in improving the quality of life of persons with IDs and make them less dependent on others. This chapter investigates the available research evidence on the use of assistive technology in IDs, discusses utilizations, impediments/barriers, implications and suggests recommendations for future research.

INTRODUCTION

In today's world, technology has become an integral part of human life impacting every sphere of daily living. For example, people are purchasing everything from cookies to clothes, movie tickets to flight tickets online; using elevator and escalators, using smart phones to send instant group messages, photos, videos, and files; to name a few. Technology has also become an integral part of the advancement of medical diagnostic assessment and treatment. Telemedicine has reached remote areas of villages. But, there is a common concern that persons with disabilities in general, are among the most excluded ones in the process of development of the country. Technology has changed and continues to change the way people manage things in both, their personal as well as professional lives. So, the natural extension of that

is to see the impact and the integration of technology in the empowerment of persons with disabilities in the same way as it has been in other areas of life (Alnahdi, 2014).

The focus on technology being used by people with intellectual disabilities (IDs) is a fairly recent phenomenon (Wehmeyer & Smith, 2004). The American Association on Intellectual and Developmental Disabilities (2009), defined Intellectual disability as a "disability characterized by significant limitations, both in intellectual functioning (reasoning, learning, problem solving) and in adaptive behavior, which covers a range of everyday social and practical skills. This disability originates before the age of 18". Technology has the potential to contribute to a better quality of life for persons with IDs, which is more than just a matter of convenience (Wehmeyer, Palmer, Smith, Davies, & Stock, 2008). Use of technology is indispensable in persons with IDs, particularly in the area of early disability detection, prevention, identification, assessment and rehabilitation.

According to the Census of India 2011, there are 26.81 million persons with disabilities in India who constitute 2.21% of the total population. Out of the total persons with disabilities, 1.5 million (5.61%) are mentally retarded or intellectually disabled in India. The distribution of the population suffering from mental retardation is shown in Table 1 (Census of India, 2013). However, estimates vary across sources. A new World Bank Report (O'Keefe, 2009) on disabled persons in India, has observed that there is growing evidence that people with disabilities comprise between 5 and 8 per cent of the Indian population (around 55-90 million individuals). The prevalence of IDs is calculated to be 1 to 3% in developed countries (Petterson, Bourke, Leonard, Jacoby, & Bower, 2007). Millions of people worldwide are affected by IDs which burdens not only the people who suffer from it, but also the family and society as a group (Katz & Lazcano-Ponce, 2008). The development of assistive technology devices and equipments has made significant contributions towards improving lives of people with IDs and reducing the burden on their families and society (Table 1).

The term "assistive technology" (AT) refers to a variety of tools, devices, equipments or instruments that help persons with IDs to educate, empower, improve, rehabilitate, train and adjust within their daily context and achieve a superior quality of life. AT includes many resources, which are expected to create positive and vital behavioral as well as social profits for the users by reducing the negative impact of their problems and related difficulties (Bauer, Elsaesser, & Arthanat, 2011; Reichle, 2011). AT can be a device or a service. An *assistive technology device* is any item, piece of equipment, or product system that is used to increase, maintain, or improve functional capabilities of persons with IDs, whereas an *assistive technology service* refers to any service that helps an individual with IDs to select, acquire, or use an assistive technology device (P.L. 103-218: The Tech Act amendments in 1994). AT devices and services can be used in a variety of daily activities viz. education, new learning, home living, employment, health and safety, communication, social activities, protection, sports, recreation and leisure, and

Table 1. Population suffering from mental retardation

Gender	Total	Rural	Urban
Persons	15,05,624	10,25,560	4,80,064
Males	8,70,708	5,91,408	2,79,300
Females	6,34,916	4,34,152	2,00,764

Census of India, 2013.

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