



**Influence of assistive technology and reimagining the future of educational attainment of adolescents with disability:
With special reference to COVID era**

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Abstract

Learners with disabilities are subject to multiple deprivations and limited opportunities in several dimensions of their lives. This work is going to present the importance of assistive technology for inclusion of disabled adolescents especially in covid era. Assistive technology is used by persons with disabilities in order to perform functions that might otherwise be impossible. Assistive technology has the unique potential to dynamically transform the adolescents' learning experience by helping them to become engaged thinker, global citizens and active learning participants in collaborative social learning environment.

Educators are using computers as tools to deliver and facilitate learning beyond drill and practice, to provide environments that accommodate learning to ensure enhanced and equitable learning environments to all students. Efforts should be done to develop, integrate and access assistive technology service system with high quality, in order to optimize its effectiveness. Students with impairment are likely to have more problems than normal students. Their difficulties are many – physical strength, sensory, cognitive, psychiatric, and other health-related issues. The development of computer-based technology has introduced various and unlimited options for physically challenged students, ceasing the isolation and insufficient opportunities they endured for long. Computer programs or applications introduced in classrooms are making it easier for such students to get access to learning materials, online education, communicate ideas, interact with others, and participate in educational activities. To conclude, this paper attempts to analyze and describe that differently-abled students shouldn't be barred from education. Like normal kids, some special students do perform better in environments with little distractions and easy access to pertinent technology. With the help of technology, the future of such students is bright and they will be able to participate in classroom education and experience school life.

During covid era, assistive technology helped with different ways of learning and opens up new opportunities to connect, explore, innovate and create and share knowledge. COVID-19 has highlighted the importance of assistive technology that enables and promotes inclusion and participation, especially of adolescents with disabilities. Computer reading machines, a type of assistive technology, allows adolescents with learning disabilities to read at a level more commensurate with their cognitive abilities. During corona era, digital assistive technology including a range of technologies, which enable people to build on their abilities and participate as fully as possible at home, school, work and in their community.

In many countries, such as India has seen a surge of interest in innovation of assistive technology that could change the lives of adolescents with disabilities. Research projects have been initiated to explore the possibilities of incorporating assistive technology to enhance the lives of adolescents with disabilities. "Barrier-free access to education for all children with disability" is the latest provision made in the New Education Policy (NEP) 2020. In the NEP, assistive devices, appropriate technology-based tools and language-appropriate teaching-learning materials will be made available. Under the NEP 2020, school and school premises would be helped by providing resources to include children with disability and to appoint special teachers who are trained to teach such students. With the help of educator, technology can assist disable adolescences in the content areas, providing a means to engage in the domain of study which might not otherwise possible. Assistive technology helps the adolescences with disability to lead an easy life and has more comfort. They are may be able to participate more in mainstream schooling (colleges, universities) and it reduces the impact of their disabilities and disable students can easily interact with classmates and teachers in ways that were previously impossible.

Keywords: Assistive technology, independence, policy, disability, ageing, service, COVID, virus, health workforce, universal health coverage

Introduction

Globalization has been defined as the process of rapid integration of countries. Globalization (It) has brought new technologies, new products and also the new economic opportunities. The educational imagination of the last two decades has been dominated by one particular vision of the future. This vision has promised students, researchers, educationist and nations that with enough education, creativity and new technology their future will be secure. Due to economic liberalization and globalization, the world has become a "global village". There is increasing interaction between people of different countries. People around the globe are more connected to each other today

than ever before in the history of mankind. Therefore, information technologies are assumed to play a constructive role in education to make the teaching and learning process more productive. We live in an intensely interdependent world in which all the earth people with their immense differences of culture and historical experience are compressed together on instant communication.

Methods

The world has become smaller and emergent technology is the largest factor in the global development. Over the past couple decades, technology has significantly changed the ways. The working for effective development of humanity:

physically, socially, economically and spiritually. The modern progress of technology not only has intensely influenced nature, but also has penetrated all fields of social life, with ever increasing impact on society and its development. Among adolescents today, the popular communication forms compromise of instant messaging-mails, chat rooms, text messaging and many more activities. Over the past two decades, technology has become progressively common in the lives of adolescents. Adolescence is a time of life that is both exhilarating and daunting. Youth (adolescence) is a time of life or stage from childhood to adulthood. It is the most crucial and significant period. Adolescent mind is marked with excitement and anxiety, self confidence, chaos, agitation and loneliness. It is a critical time for brain growth. It is a transitional stage of psychological, biological human development. Adolescents in the present era of information technology revolution find accessing any information very easy at the click of a computer mouse. Technology has affected every aspect of human activity. Technology has become an important tool of education and it has strong impact on individual's life. Technological advancement become progressively common in the lives and has reshaped the lives of adolescents (both normal adolescence and adolescence with disability.).

Results

Adolescents with disabilities are a part of disadvantaged section. There are millions of disadvantaged adolescents who are still not exposed to wide range of this revolution's product. They are usually deprived of education because of their condition. Adolescents with disabilities have face a lot of difficult situations and only proper education can help them to overcome or to deal with all the changes which they face during that time. Over the past couple decades; technology has significantly changed the ways. New developments, primarily in computer technology, have expanded the potential for improving interactions, independence, and quality of life for adolescents with disability far beyond anything imagined before. In this digital age, technology makes things possible and the use of assistive technology has increased and, this technology is used by the persons with disabilities, and it also help to reduce the isolation of disable adolescences. It is assumed to play a constructive role in education field. Technology has opened many educational doors to children, particularly to children with disabilities. Alternative solutions from the world of technology are accommodating physical, sensory, or cognitive impairments in many ways. It helps to eliminate barriers that adolescents with disabilities.

Discussion

Assistive devices may be classified as: low technology, medium technology and high technology. Much of the technology we see daily was developed initially to assist persons with disabilities. Devices for persons with locomotors disabilities such as, wheelchairs, trolleys, walkers, artificial limbs and many more. Devices for person with multiple disabilities: communication boards, adapted crockery and cutlery, persons for visual impairments: low vision devices, white canes, talking clocks and watches, educational devices, adapted devices. Disabled with hearing impairments: hearing aids and telecommunication devices, which enable users to listen better through a sensory-

substitution method. Curb cuts at street corners and curb slopes, originally designed to accommodate people with orthopedic disabilities. The optical character reader, developed to assist individuals unable to read written text, has been adapted in the workplace to scan printed documents into computer-based editable material, saving enormous amounts of data entry labor. New devices and techniques are developed for adolescents with sensory and physically disabilities. Assistive technology is a generic or umbrella term that covers technologies, equipments, devices, apparatus, services, systems, processes and environmental modifications used by disabled persons. This technology refers to the devices and services that are used to increase, maintain, or improve the capabilities of a student with a disability. Assistive technologies include a range of technologies, such as low-vision devices, hearing aids, and augmentative and alternative communication systems, walking frames, wheelchairs and prostheses such as artificial legs. These devices enable people to build on their abilities and participate as fully as possible. Millions of people around the world affected by illness, disability, or the impact of aging rely on Assistive Technology (AT) to lead healthy, independent, and productive lives. Persons with disability meet barriers of all types. Assistive technology is used by persons with disability to lower many of these barriers and also in order to perform functions that might otherwise be impossible without the help of the devices (Assertive technology devices).

A novel corona virus disease emerged in 2019 and a global pandemic was declared in early 2020. The onset of COVID-19, declared a global pandemic in 2020, threatened the AT ecosystem as measures to curb transmission of COVID-19 had unintended consequences for people. During covid era, assistive technology helped with different ways of learning and opens up new opportunities to connect, explore, innovate and create and share knowledge. COVID-19 has highlighted the importance of assistive technology that enables and promotes inclusion and participation, especially of adolescents with disabilities. Computer reading machines, a type of assistive technology, allows adolescents with learning disabilities to read at a level more commensurate with their cognitive abilities. During corona era, digital assistive technology includes a range of technologies, which enable people to build on their abilities and participate as fully as possible at home, school, work and in their community.

Assistive technology plays a vital role and helps to overcome the challenges faced by adolescents (especially in education field). Due to physical and sensory disabilities the adolescents with disabilities may have learning difficulties, emotional and behavioral difficulties. Assistive technology is a technology used by persons with physical and sensory disabilities in order to perform functions that might otherwise be impossible. Assistive technology plays an important role in improving the life of adolescents with disabilities. Assistive technology provides opportunities and help for adolescents with disabilities to connect with the society or all over the globe. It also helps them to make friends all over this global village in order to avoid loneliness. Overall, it also helps to improve their overall quality of life.

Conclusion

Through the use of assistive technology, adolescents with disabilities can reduce their isolation and become an important part of society. Assistive technology has the unique potential to dynamically transform the adolescent's learning experience by helping them to become engaged thinkers, global citizens and in education field they became active learning participants in collaborative social learning environment. The different devices of assertive technology help to cater to the need of each individual with disability. Employing proper assistive technology enable adolescents with disabilities to work independently with enhanced self-confidence. During the covid era where normal persons have had to adjust to new ways of work and life, the assistive technology (digital) helped to reduce the isolation of disabled students. This technology also helped to perform different activities and regular education in covid era. During covid era, this technology helped to access the information and activities that otherwise are inaccessible. It is only due to the help of assistive technology; the disabled persons were able to participate actively in collaborative social learning environments or become a global citizen in covid era. In the pandemic phase, the computer reading machines (a type of assistive technology), allows adolescents with learning disabilities to read at a level more commensurate with cognitive abilities. Education was important domain in which there a dramatic shift to the online mode of transacting. Since the beginning of the lockdown, schools, colleges, and universities around the world have shifted their classes to video conferencing platforms like Zoom and Google Meet. As normal person study with the use of video- and audio-conferencing tools during corona era, the devices used by disabled persons also helped them in undertaking activities of daily living, pursuing an education, acquiring access to information, working and engaging in leisure activities. Adolescents with disabilities are often having difficulty in fitting in a normal society. Many of these adolescents with disabilities are usually deprived of education because of their condition. But it sees that the devices (assistive technology) such as computer access devices, communication aids and specialized software used by disabled persons not only help them in normal days, but also helped them to connect with the world during pandemic phase. (Covid-19) Assistive technology helps the disabled person to become an important part of the society. With the help of these technologies, adolescents with a loss of functioning are better able to live independently and participate in the society. Therefore, the importance of assistive technology cannot be under-estimated. These devices definitely help to improve the self-image, self esteem and sense of self worth of the disable person. People with disabilities need the help of assistive technology in order to overcome the challenges which they face in their daily lives include: people with physically, mentally and sensory disabilities. Some have learning difficulties, emotional and behavioral difficulties, older people, and persons with multiple disabilities. The main aim of the assistive technology is to participate in the life of adolescents with disability and help and provide flexibility in their lives and these technologies helps to feel them a part of society and lead a near-normal life. The different devices of assertive technology help to cater to the need of each individual with disability. Assistive technology includes a range of technologies so, there is a great need to

check the needs and abilities of the disable person (user) to use the device according to the need or use the right device so that it helps the adolescents with disabilities to become active and productive citizens of the society. With the use of these devices persons with disabilities are capable of handling a wider range of activities independently. In many countries, such as India has seen a surge of interest in innovation of assistive technology that could change the lives of adolescents with disabilities. Research projects have been initiated to explore the possibilities of incorporating assistive technology to enhance the lives of adolescents with disabilities. With the help of educator, technology can assist disable adolescences in the content areas, providing a means to engage in the domain of study which might not otherwise possible. Assistive technology helps the adolescences with disability to lead an easy life and has more comfort. They are may be able to participate more in mainstream schooling (colleges, universities) and it reduces the impact of their disabilities and disable students can easily interact with classmates and teachers in ways that were previously impossible. This technology enables adolescence to build on their abilities and participate as fully as possible at home, work and in their community. Assistive technology helps them to have a successful future.

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