

Critical analysis of the benefits and drawbacks of assistive technology with special needs

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ABSTRACT

Assistive technology has emerged as powerful platforms in education field. Assistive technology is helping disabled individuals in a big manner. Increasing computer-based technology has created a sea change for all the disabled students. It has ended the isolation or limited opportunities which disabled students have faced for so long. Assistive technology has been designed or created to make it easier for disabled learners for accessing material, communicating their work or ideas and participating in different educational programs. All these technologies help many of those students who are not able to see, hear, walk and talk. The development of modern special education is the advent of adaptive and assistive technologies which gets used by the teachers to help the students for achieving the good learning at possible levels. For becoming a culturally responsible person, it is very important to achieve success in the globalized or modern world. This article is attempt to discuss the benefits and drawbacks of assistive technology with special needs.

Keywords: Assistive Technology, Special Needs, Benefits, Drawbacks

INTRODUCTION

Assistive technology has emerged as powerful platforms in education field. Assistive technology is helping disabled individuals in a big manner. As Hopkins (2016) claims that the rules of education have change since the introduction of digital technology such as tablets and smart phone devices. However, the issue may be in the difficulty of providing these tools (Cochrane, 2012). As a result, the main purpose of this study is to discuss the drawbacks or benefits of using assistive technology for disabled students. It will also include the discussion about the impacts of assistive technology on wider community and society. It will help in understanding that how assistive technology contributes to learning to the disabled students. Various devices such as –hearing aids, cognitive aids or electrical assistive devices will be analyzed in this study. This study will suggest different ways to make disabled students much more confident with disability support devices. It suggests taking the best use of devices or gadgets so that students may easily learn with interest. The study recommends different ways to improve the functionality of assistive technology so that students may get the best support of it in the future.

THE IMPORTANCE OF ASSISTIVE TECHNOLOGY

According to Hawkrigde, et. al. (2018), assistive technology contributes to restoring and improving the function of people who have developed a disability because of injury, ageing or disease. Appropriate assistive technology helps people with disabilities compensate. Assistive technology may be low tech, communication boards made of cardboard and fuzzy felt. It is also

known as an item, software program, a piece of equipment and product system. It mostly gets used for increasing, maintaining and improving the functional capabilities of those people who are suffering from any kind of disability (Hawkridge, et. al., 2018). Over the past 10 years, it has been identified that technology has created an unexpected or fruitful revolution in learning possibilities for disabled students. In support of this, Westwood (2018) stated that different disabled learners have struggled with their assignments. They have been shut out of various subjects or classes just because schools did not have any accessibility or instructional programs. Increasing computer-based technology has created a sea change for all the disabled students. It has ended the isolation or limited opportunities which disabled students have faced for so long. Assistive technology has been designed or created to make it easier for disabled learners for accessing material, communicating their work or ideas and participating in different educational programs. For example- while Braille writing and reading techniques were helping visually impaired or blind students, it has helped them to continue their education for longer (Morse, 2017). The new assistive computer technology included hearing, mobility, and visual aids which made Braille as world-shattering in comparison. At the present time, assistive technology is serving better for disabled students to learn more and efficiently (Westwood, 2018). By these different types of technologies like assistive learning systems, Intel reader, sound field systems and many more have been developed. All these technologies help many of those students who are not able to see, hear, walk and talk. The development of modern special education is the advent of adaptive and assistive technologies which gets used by the teachers to help the students for achieving the good learning at possible levels. For becoming a culturally responsible person, it is very important to achieve success in the globalized or modern world. Assistive technology is quite helpful for students to get a better education (Hawkridge, et. al., 2018). Engaging the disabled students with the global community by positive group interaction or assistive technology may help in many aspects with respect to social or cognitive development.

KEY QUESTIONS

In the words of Shaw and Stoll (2018), many of the key questions take place in mind while discussing the assistive technology and its role towards the disabled students. Some of those questions related to assistive technology are as follows-

- How assistive technology helps disabled students socially or academically?
- What type of technologies comes under assistive technology to educate students globally?
- What are the impacts of assistive technology on disabled students and what are the pros & cons (Shaw & Stoll, 2018)?

CORE DISCUSSION ABOUT ASSISTIVE TECHNOLOGY

In the views of Turmusani (2018), most of the disabled students are facing learning problems in the absence of required devices or technology because of which they become unable to develop their self-esteem. In these serious situations, the negative cycle of behavioural conditioning and low self-esteem may cause learners to develop poor social skills; they may face problems with peer interactions and work frequently and in class as well. But assistive technology is playing a lead role in getting rid out of these issues and helping the students tremendously. With the use of instantaneous communication and assistive digital technologies, students may learn socially through a virtual medium. It greatly helps in building their self-esteem in social abilities and academic abilities both (Turmusani, 2018). With the use of assistive technology, teachers can create a global and collaborative classroom environment, which may help the disabled person in the context of good learning. This will also help the learners with other students across the globe as well as encourage them to perform together around cultural borders.

In against of it, Dar et al (2018) students with disability seem to be less user-friendly due to the absence of computers, visual displays, tablets and so on. Using the drawings and visuals display are the best methods for engaging the students to learn better. By giving the wealth of currently available technologies to learners, it can get proved as an excellent mode of engagement. It will help the students in designing different projects. It can also help them to proceed through an interactive history lesson on the computer. By the use of assistive technology, disabled students will get help in learning more and getting engaged in various activities. A learner who is visually impaired and does not have any cognitive disabilities should be able to participate properly in the general education classroom. It can happen merely as tools with any other reading or writing devices (Dar et al, 2018). The host of Braille reading and refreshable writing display includes a variety of equipment so that students can write and read silently. Many of the adaptive keyboards help the students in developing hands-free typing skills. Apart from this, most of apps, computer programs for tablets helps the students in terms of commands or text to speech various modes for facilitating non –visual use.

PROS & CONS OF USING ASSISTIVE TECHNOLOGY FOR DISABLED STUDENTS

According to Pound, et. al. (2018), it is well known that technology provides diverse liberates or freedom to individuals for performing well. The technology related assistance for individuals with Disabilities Act Amendments of 1994 passed in the United States stated that the devices of assistive technology help people with disabilities in multiple ways. it helps to have the best control of life for people or student., contributing and participating more appropriately in all the activities at schools, homes, and work environment and in their communities as well. Assistive technology contributes students to interact to a greater extent with people who do not have any disabilities. It also benefits the students with different opportunities which are taken for granted by people who do not have disabilities. As indicated by Disabilities Act Amendments, assistive technology has been able to affect the lives of many of the disabled people including adults or children to a great extent. National Council on Disability conducted the research that most of the disabled children are capable of increasing their efficiency to stay longer in a regular class. Around 72% of working age people or 85% of elderly people were capable of reducing the dependence on their family members (Al Hazmi et al, 2018). Apart from this, one-third users of assistive technology indicated that their family saved money as because people were capable of having better-paying jobs (Pound, et. al., 2018). In a survey, when asked people they stated that the scale of their quality life got increased from 4 to 9.5%. By this, it gets clear that with the help of assistive technology students becomes able to perform at their own pace or to accomplish their objectives more individually.

Certain devices of assistive technology facilitate students who face difficulty processing or remembering the spoken language. It is tools for math are basically designed for helping all those students who are struggling with various issues of organizing, aligning, computing or copying processes related to their education. There are a variety of technologies, which have been designed for helping the students to improve their academic performance in such a great manner (Lopez, et. al., 2018).

As per opinion of Wilmshurst et al (2018), the use of assistive technology not only helps the disabled students but also the other students and even teachers in different ways. It helps them in achieving their academic standards. In the use of assistive technology, students have given the opportunity to socialize with more and more students. Technology helps the students for improving their organizational skills or writing skills as well. It also facilitates the students for reaching a higher level of education. Assistive technology includes regular textbooks, web-based content or electronic books, which helps all the disable students or other students in

feeding the most current and accurate information (Wilmshurst et al, 2018). It contributes the students in becoming more knowledgeable even outside the classroom. The products of assistive technology include voice recognition devices, screen readers and so on which mainly target multiple indisputable challenges of communication like hearing, learning or arithmetic requirements.

In against of it Lopez, et. al. (2018) it is true that assistive technology greatly supports the strengths of an individual which surprises by bringing many of the unbelievable changes in disabling people or students. At the same time, assistive technology also includes many of the disadvantages, which cannot be ignored like it degrade the person's privacy. It allows nurses or helper to access to personal for the person with disabilities any times and in any circumstances (Lopez, et. al., 2018). Although one of the objectives of technology aids is to help the students in participation with society or community so that they can easily interact with ordinary people, it may have the opposite effect.

In support of this, Al Hazmi et al (2018) stated that it has been observed that the majority of assistive technology are so expensive. Many of the technologies cost thousands of dollars and many schools' districts do not have the financial support for providing these technologies. For being able to use the technologies correctly, there is a need to train which is also time-consuming. Technology can never be completely relied on as it has its own flaws. If in case student's assistive device is not performing properly, the student may not be able to achieve their task effectively. Many of the students abused the assistive technologies because they don't give any priority for the further learning's. The human contacts towards the individual may decrease as there will be less requirement of direct physical assistance. It leads to being poor emotional health for students because they are socially isolated. Most of the time teachers seem to be less knowledgeable about different ways of using assistive technology for getting best results. Just because of it, it gets so hard to get the proper benefit by good utilization of assistive technology. Thus, it is very important for disabled students to have proper knowledge & being trained on using the technologies (Al Hazmi et al, 2018). Assistive technology gets considered as a luxury which is not universally accessible by everyone. It means that there are people across the world that needs assistive technology but cannot access it due to lack of accessibility.

IMPACTS OF ASSISTIVE TECHNOLOGY

In the words of Silman, et. al. (2017), as the outcome of assistive technology, people or students with a disability becomes able to perform various tasks in an easier manner. An individual may use the technology excessively or do not attempt for learning ways to address their disabilities. A disabled person may actually regress when they rely so much on the assistive technology or do not put efforts by themselves. many of the complexity and difficulty may happen in the use of assistive technology. It highly affects the individual psychologically or increases the level of disappointment (Silman, et. al., 2017). In the classroom, assistive technology allows student with special needs to develop their strengths and addressing their weaknesses as well.

In against of it, Runswick-Cole, et. al. (2018) stated that assistive technology has the ability to break barriers that limit the ability of students with disabilities to pursue their academic studies properly. Transitioning from the segregated, self-contained atmosphere to comprehensive classroom is corroborated by the use of assistive technology (Runswick-Cole, et. al., 2018). Assistive technology is playing an immense role in raising the bar for disabled students. It becomes possible by giving them all the necessary tools to expand their knowledge bases and gradually moves into a more rigorous atmosphere for learning.

Previously when we did not have assistive technology, it was quite hard to deal with disabled students to teach or prepare them to be self-independent. At that time we did not have the machines to help them in listening, hearing or helping to be more knowledgeable regarding education and technology both. The teachers had to face various issues to make disabled students understand anything related to education. But now as assistive technology has introduced, it became so easier for us to help them in different terms related to education, technology and ways to be self-dependent. With the help of various assistive technologies such as sound reader, Intel reader and so on, it became so easier to make them understand and learn quickly. Assistive technology is greatly helping in boosting up the morale of the disabled students in regard to their better future.

RECOMMENDATIONS

In the views of Lopez, et. al. (2018), it is very important to use the devices of assistive technology in a proper way with efficiency. It has seen that empowering the students with tools which aid in mobility, communication, calculation or transcription opens the door to brighter futures (Lopez, et. al., 2018). When compromised with an introduction to inclusive classrooms, assistive technology will include the potential for changing lives by rigorous instruction & decreased engagement of students.

As per the opinion of Pound, et. al. (2018), some of the experts have suggested that raising the expectations for all students, including disabled students may help in increasing the academic performance or improving the comprehension & participation. In short, involving the disabled students in the various activities or in an inclusive classroom will help in fostering the successful results or promoting their self- efficiency in such a great manner. It has also seen that lack of knowledge of information for using the assistive technology comes up with various barriers or implication. In order to reduce the barriers, it is very important to get the proper training to use assistive technologies. It will also facilitate in saving the money or time both in an appropriate manner (Pound, et. al., 2018). It has been observed that assistive technology includes higher cost because of which it becomes impossible to use the devices by each & every individual or disable student. To get rid of this situation & serving better, it is required to produce the machines with less cost or higher efficiency so that each & everyone can afford it easily.

CONCLUSION AND FUTURE RESEARCH

This paper aimed to study and analysis the primary and the main benefits and obstructions of the use of assistive technology for disabled students. In the light of the above discussion and analysis the benefits of assistive technology allow learners to improve their learning as it has the ability to help them to get their learning in many ways. In addition to this, the assistive technology help disabled learners to learn independently. On the other hand, some issues were existed when the use of assistive technology occurred. These issues are to be time-consuming and less likely to afford by everyone. Also revealed that assistive technology limits the abilities of students to perform with full potential. The study concludes with multiple ways of good utilization of assistive technology like using low tech devices with high efficiency, using it for learning or writing so that students can get the best benefit of it.

As this paper considered to be the analysis of the benefits and limitations of the use of assistive technology for disabled students, new research includes a questionnaire examine the actual use of assistive technology for disabled students of teachers 's opinion can be done. Moreover, qualitative research that investigate the challenges and benefits of the use of assistive technology for disabled students might be done with the decision makers.

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