

Procedure International Journal of Science and Technology

(International Open Access, Peer-reviewed & Refereed Journal)

(Multidisciplinary, Monthly, Multilanguage)

ISSN : 2584-2617 (Online)

Volume- 1, Issue- 8, August 2024

Website- www.pijst.com

DOI- <https://doi.org/10.62796/pijst.2024v1i8001>

Impact of Artificial Intelligence based Special Education on CWSN(Children With Special Needs)

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Abstract

This work describes how Artificial Intelligence can be used and is being used in the field of special Education. The use of AI is still unclear for the educators how to make pedagogical advantage of it on a broader scale and how AI can impact on teaching and learning in special education. It has influenced educational sector to make it more inclusive and accessible for students with visual, hearing, mobility and intellectual disabilities.

The impact of AI in education and its pros and cons are presented here. It also describes a specific way to develop AI enabled platform for special education and finally the after effects of AI in special education. The data collection was based on qualitative research that was conducted using focused interviews from teachers and students with special needs. The study in particular focused on whether the literature covered the theme of analyzing the impact of AI on (a) Special Need Education; (b) AI helping teachers to promote special need education. The study also tried to propose the framework for an inclusive future of Special Need Education based on focused interview.

Introduction-

Artificial intelligence-

Artificial intelligence (AI) refers to the intelligence of machines or software, as opposed to the intelligence of living beings, primarily of humans. It is a field of study in computer science that develops and studies intelligent machines. Such machines may be called AIs.

Special Education-

Special education refers to the education of children who differ socially, mentally, or physically from the average to such an extent that they require modifications of usual school practices. It serves children with emotional, behavioral, or cognitive impairments, as well as those with intellectual, hearing, vision, speech, or learning disabilities. Additionally, special education caters to gifted children with advanced academic abilities and children with orthopedic or neurological impairments. In essence, it aims to provide tailored support and accommodations to meet the unique needs of each student.

Children with special needs (CWSNs)-

The term special needs is a catch-all phrase which can refer to a vast array of diagnoses and/or disabilities of children. Hence the term “children with special needs” (CWSNs) is for children who may have challenges which are more severe than the typical child, and could possibly last a lifetime. They’re children who have a disability or a combination of disabilities that makes learning or other activities difficult. Special-needs children include those who have: Mental Retardation, which causes them to develop more slowly than other children. Speech and Language Impairment, such as a problem expressing themselves or understanding others. Physical Disability, such as vision problem, cerebral palsy, or other conditions. Learning Disabilities, which distort messages from their senses. Emotional Disabilities, such as antisocial or other behavioural problems. Children with special needs may have developmental delays, medical conditions, psychiatric conditions, and/or congenital conditions.

In India various conditions and disabilities of CWSNs has been classified into categories as per Disability Act 2016.

Objective of the study-

The Objectives of this study were as follows: -

1. AI holds immense potential in the field of special education.
2. It can offer personalized learning experiences, deliver real-time feedback, adapting to the unique needs and capabilities of each student.
3. This personalization can maximize learning outcomes and facilitate skill development.
4. AI can also augment assistive technology.
5. AI is able to dynamically change course content.

Research Question of the study

The Research Question of this study were as follows

1. Impact of Artificial Intelligence based Special Education on CWSN(Children With Special Needs)
2. How Artificial Intelligence help in educate special need children

Review of the literature

AI and Special Need Education Various researches have taken place in the area of AI (AI). It is usually defined as “the mechanical simulation system of collecting knowledge and information and processing

intelligence of universe: (collating and interpreting) and disseminating it to the eligible in the form of actionable intelligence". It is composed of information agents that can be either in the physical form as devices (such as Robots or can be virtual such as software.

According to Morrison ;- as AI matures, it becomes increasingly important to understand the kind of things that people with disability would require as a part of their technology tool kit. The benefits of AI have been acknowledged in education; however, the research fraternity has started exploring its benefits for people with special needs in education. AI and Special need Education collaborate together to enable development of individuals suffering from disabilities. Students with learning, hearing, visual and mobility impairment can seek benefits with the use of Artificial Intelligence in education. The research study has also indicated AI as one of the assistive technologies for PwDs. As per an article by Lynch ,

AI has provided around-the-clock care using Robotics for people with disabilities. AI has helped the people to use mobile applications without even clicking on it. For instance "Siri" in mobiles has enabled people to access mobile applications without even actually clicking actually clicking on them. Another example from Google "Alexa" that has enabled people to ask for any information without typing on the search bar. Both these applications (Siri as well as Alexa) work on AI (speech recognition. Such applications can provide assistive services to people. This paper tries to investigate the impact of AI on special need students and the assistance these tools can extend to teachers in evaluating and imparting education as per the requirements of students with special needs.

Mythology Setting

Data was collected from the students enrolled in government mentally retarded home ,Jamdoli society has located in Jaipur, Rajasthan, India .this society running teacher training course and also running special school and residential home for special need children's in Jaipur, the consent was obtained to conduct the research from organization ,participations, and the teachers of the participants also.

Sampling

There were forty-five students participated in this study. out of these forty five participants twenty three male and twenty two were female, among these 45, thirty two Children who can run Google Assistant with the help of teacher and rest twenty three were run Assistant in Google by themselves after given short Demo, samples were also distributed on the basis of their classroom settings, all 45 participations had studied at special school.

The sample was selected, in order to understand the support provided by institution and strategies taken up by teachers to promote inclusive learning environment.All participants have good understand level of instruction and follow the commands given by the teachers .

Distribution of samples-

On the basis of classroom setting

Class	<u>Who can run Assistant in Google by themselves</u>	<u>Children who can run Google Assistant with the help of teacher</u>
Primary level	6	4
Secondary level	5	5
Secondary II	4	6
Pre-vocational level	9	6

On the basis of Gender ratio

Gender	<u>Who can run Assistant in Google by themselves</u>	<u>Children who can run Google Assistant with the help of teacher</u>
Male	15	8
Female	10	12
Total	25	20

Data Collection and Analysis Procedure

Data was collected via interview questions ,interview were conducted in to three phases in first phase was twenty participants and fifteen participants was participated in second and third phase respectively. Interview was done by five to six students small group ,there were no standard interview questions constructed the interview questions were based on objectives of the study and spontaneous question can be asked about the context and repeatedly asked until get the accurate information till meet the objective of the study.

Results & dissuasion

The responds of the participants were analysed to see the Impact of Artificial Intelligence based Special Education on CWSN(Children With Special Needs) through interview questions three basic impacts were come out which are summarized as below:-

Impact related to AI towards CWSN

1. On the other hand, AI also holds great promise for people with disabilities., AI may also allow people with disabilities to fully control their environments—not only at home but also in the classroom and the workplace.

2. Some organizations are already using AI to assess conformance to accessibility guidelines. As this use becomes more widespread, conformance assessment will become more scalable. And as this use

continues, we will find many other ways in which AI can be used to improve accessibility and ensure that students with disabilities have access to rich learning opportunities.

3. After this study exercise, we found that children in both types of groups are able to make their learning more impactful.

Summary

The present study revealed that the Impact of Artificial Intelligence based Special Education on CWSN(Children With Special Needs) touching the lives of every individuals and making life easier for children with special needs. Its major impact can be experienced in the area of education where institutions, teachers and parents tries to promote inclusive education with assistive technologies that can substitute human effort and promote education without discrimination.

The responses were obtained from teachers as well as students with disabilities. The sample was selected, in order to understand the support provided by institution and strategies taken up by teachers to promote inclusive learning environment. The responses were analysed using Content that helped in suggesting an inclusive pedagogy and teaching style to promote special need education

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Cite this Article-

Ravindra Pratap Singh, "Impact of Artificial Intelligence based Special Education on CWSN(Children With Special Needs)", Procedure International Journal of Science and Technology (PIJST), ISSN: 2584-2617 (Online), Volume:1, Issue:8, August 2024.

Journal URL- <https://www.pijst.com/>

DOI- <https://doi.org/10.62796/pijst.2024v1i8001>

Published Date- 03/08/2024