

Impact of AI Based Teaching on Disabled Students

Md Jahangir Alam¹; Dr. Baig Muntajeeb Ali²; Dr. Mukesh Kumar Meena³

¹Research Scholar

MANUU College of Teacher Education, Darbhanga (Bihar)

²Associate Professor

MANUU College of Teacher Education, Darbhanga (Bihar)

³Assistant Professor

MANUU College of Teacher Education,
Asansol (W.B)

Publication Date: 2025/12/15

Abstract: The artificial intelligence has become a reality in the new educational world that has changed direction of teaching process. Now this technology is just not a technical invention but it is rising as an effective source of teaching. It is opening some new doors of education for disabled students especially. The AI based teaching resources such as smart readers and Speech-to-Text, digital assistant and individual learning system are making educational experience of disabled students more effective and reliable. The basic purpose of this research is to assess that how AI is influencing the process of learning of disabled students, Educational Performance, Self-confidence and Teaching environment. The research has focused on six main points- Teaching role, Education of Visually and hearing impaired students, individualized learning, Teacher's behaviour, Improvement in performance and Moral and Social challenges- have been discussed. The study reveals that teaching resources based on AI improving educational access of disabled students, creating self-esteem among them and providing equal opportunities to them. However there are some moral and social challenges too. The study will shed light on the above points in details.

Keywords: Artificial Intelligence, Teaching Resources, Disabled Students and Digital Teaching.

How to Cite: Md Jahangir Alam; Dr. Baig Muntajeeb Ali; Dr. Mukesh Kumar Meena (2025) Impact of AI Based Teaching on Disabled Students. *International Journal of Innovative Science and Research Technology*, 10(12), 587-590.
<https://doi.org/10.38124/ijisrt/25dec423>

I. INTRODUCTION

The new era is known as the era of technology. Everything is changing rapidly. Like all other aspects of life the educational system is also changing rapidly. The traditional teaching methods are being replaced by digital and automated systems slowly. This change has given central position to the Artificial intelligence in the field of education. This technology is not only making the learning process easy but also making education more personal, accessible and effective.

Artificial intelligence is now using machines and software in teaching that mimic human thinking and decision-making. This system is providing learning opportunities to students according to their performance, interest and speed. It is proving to be a boon, especially to disabled students. There was a time when the different types of disabilities were obstacles in learning process, now AI based tools are removing these obstacles. The role of AI in education is just not to provide Convenience but to create such environment where every student can learn according to his ability. This research article includes six very important subtopics which we will discuss in next upcoming lines.

II. ROLE OF AI IN THE EDUCATION OF DISABLED STUDENTS

The AI has created a revolutionary dimension in the field of education. Especially for those students who are physically and mentally disabled. This technology not just make teaching and learning process easy but also provide the learning opportunity to student according to their individual needs. Artificial intelligence is providing helpful resources in providing quality education to disabled student, despite of physical disability and limited listening Skills.

Teaching pedagogy such as speech to text, smart readers etc. facilitating the learning process of students with disabilities significantly. These Technologies make information transmission more effective. It also promotes every day.

By the application of artificial intelligence in educational institutions Students with disabilities are beginning to receive equal educational opportunities, and it is making the concept of inclusive education stronger.

➤ *AI Based Teaching Resource Efficiency for Visual and Hearing Impaired Students*

Education is the basic right for all human being. Disable student also have the same right equally. But visual and hearing impaired student always say difficulty and getting education. And the traditional teaching method cannot fulfill their actual needs in education. To fulfill this gap the artificial intelligence has opened a new way. Artificial intelligence-based teaching resources are such smart systems that help disabled students learn despite their weaknesses. For example Virasat software have been developed which can lead the text and can make listen to visual impaired students. And in the same way yaar sampurn has been developed which can convert teacher voice into words or sentences which are helpful to hearing impaired students. These all resources make students self-Reliance and self-steamed and make the learning process very easy. Its great advantage is that it promotes personalized learning. Every student can learn his own pace, need and convenience. For example if any student wants to learn slowly so the system automatically slows down. And if any student feels difficulty in understanding the words then it assists with visual examples. Assistant based on artificial intelligence not only make teaching process interesting but also make things easy for teachers. Teachers can monitor students' performance through automated methods. This automatic system also indicate that which student needs guidance and in which subject or area. In such way the education becomes a joint and integral process where human being and machines both playing the roles. Several studies have revealed that significant improvement in the performance of disabled students have been seen with the help of artificial intelligence. The UNICEF and UNESCO have explained and their report in 2023 that with the help of artificial intelligence the educational inclusion of disabled students has increase. Similarly the World Education Forum revealed that

those students who used AI based tools, their learning speed increased up to 30 percent. It also has been observed that the uses of these instruments builds self-confidence, self-reliant and positive attitude among them. Now they are not dependent upon anyone in learning process, they can explore their can explore their capacities and abilities themselves. It is also an opportunity for teachers too they replace the traditional teaching method with digital teaching. However, it is also important that AI based resources are not available everywhere equally. The internet speed, AI based instruments or lack of training is a largest issue in rural areas. Now it is the responsibility of government and other stakeholders that the access of disabled students to these technologies should be ensured.

➤ *Individual Learning Opportunities with AI*

The basic objective of education is that everyone should learn according to his own pace and abilities. But it is not possible in traditional teaching system because a teacher has to teach dozens of students in same way. Here some students are left behind whose learning pace is slow or need extra guidance in anyone subject. In such conditions AI emerged as a ray of hope. The best advantage of AI in education is that, it can prepare Personalized Learning Plan for everyone. The system understand that which student learns better and what way. It analyses that who understands by seeing, who understand by listening and who understand by doing, then according him he prepare the material. Every student learn according to his needs interest, capacity and pace. For example a student is weak in mathematics then the system try to make him understand in different ways such as in easy material then with example with videos etc. At another side if anyone is extraordinary and learns things very easily and fast then the system offers him the next level of content and it is an automatic system and change every moment according to the student's progress. So that the modern Educational institutes include artificial intelligence in its syllabus. The studies have revealed that there have been seen improvement in the results of students by the using AI based individualized learning. According to the research of Oxford University (2023) the individualized learning system strengthened the students' Learning Retention. The role of teacher in this system does not come to an end but it become more significant. The role of teacher becomes as facilitator who guide them into the right direction. Though there are some challenges to make successful this Individualized learning system; for example to provide digital instruments for every student, facility of internet and issues of data security. Moreover every country has different Educational structure and syllabus. So the AI should be modified according to the local needs.

➤ *Impact of AI on Teachers Attitude*

The teacher has a central position in teaching learning process since old age. He not only transfers the knowledge but he also is playing a key role in shaping students behaviour, attitude, values and thoughts. However, since AI has made a place in teaching system, it has been observed major changes in teacher's roles, responsibilities and attitudes. These changes are not limited only to the teaching strategies but it has surrounded the thinking, responsibility and training approaches of teachers. The AI based system has become now an assistant of teacher in all educational activities. The system analyses the students learning data, learning material automatically and points out the weakness of students. In such condition the role of teacher is changing from a knowledge provider to a guide. This change is creating flexibility in teaching attitudes, modernization and creative approach. The researchers have declared that the AI has promoted Data-driven Decision Making. Now the teachers are not taking decisions simply but they are taking decisions on the basis of real analytical information. For instance he can judge which student is left behind in which subject and who needs more guidance. This has made the teaching process more efficient and targeted. On the other hand the AI has created lots of challenges for teachers. Some teachers feel that invention of machines their Instructional Autonomy has been affected and some afraid that it may replace them. Sometimes this feeling leads to professional anxiety. However the new training programmes are asserting that the artificial intelligence is not alternative of teacher but it is his assistant. Provide the opportunity to teachers to save your time, creativity in teaching an individual guidance. There has been a significant change in teacher's behaviour in the form of Instructional interaction. AI has promoted Communicative, experimental and interactive teaching in place of traditional lecture. Now teacher is not just an information provider but it is a learning partner. This change increases the desire to learn among students and gives teachers confidence in their teaching role.

According a recent study (UNESCO 2024) the institution that are using AI based teaching tools the job satisfaction level among teachers has been increased there at 40%. Similarly, according to a research published in the Harvard Educational Review 2023, the AI has shown research trends, willingness of self-learning and technical knowledge among teachers. However there is a need to strengthen these changes that teacher should be given training continuously. Awareness of ethical use, digital skill and data security of Artificial intelligence is essential. If this aspect of AI is neglected then the misuse of technology or ineffective implementation can impact on the teaching standard negatively.

➤ *The Role of AI in Educational Performance of Disabled Students*

The main objective of education is not just conveying information but to provide such opportunity to learn which should be according to each student's needed. Disabled student especially mental and physical challenge have always needed

that we are should be specific teaching methods for them. The artificial intelligence has brought a practical revolution in this field in the last few years. It has played an active role in improving academic performance of disabled students.

Visual, auditory, and touch based learning material is being provided to students on the basis of their need so that they can learn. It is useful for those students who are unable to learn with traditional techniques. It also becomes Practical convenience for teachers. Now they can see students' performance on the basis of automatic system. They can point out weak students easily, and can make their teaching plan according to them. Thus education is getting day by day Inclusive and Equitable Process. Though the AI has made significant improvement in the field of education but still there are so many challenges in this field for it. The educationist and stakeholders should think about it.

➤ *Moral, Social and Educational Challenges of using AI*

There is no doubt the use of AI in education is a revolution. It is opening the new doors for teaching learning and guidance, but every new Technology brings some challenges. In the use of AI some moral social and educational challenges are emerging rapidly. Without understanding them the effective use of AI is not possible.

The first one is moral challenges. When machines start to impact the human decisions in the Educational system, then the question arises that how accurate are their decisions?

If an automatic system starts to analyze the students' performance then there will be no room for bias? Researches have proven that if data is incomplete or misbalanced, then the AI will produce wrong results too. This situation could cause injustice for students.

The second largest challenges are social types. Not sector has equal access to educational technology. Urban areas students have all facilities such as new devices and fast internet but rural and backward areas students do not have all these facilities. Thus the digital divide has increased through the use of AI. This inequality in education system can create a new unbalance in the society. The human relationship also has been affected through the use of AI. When the maximum teaching starts with machine then the emotional relationship between teacher and student can we can weaken. Education is not only the knowledge it is a feelings too. If this feeling weaken then the moral aspects of education also will be weaken.

The third is educational challenge. Lots of teachers still do not have expertise in AI. They need training guidance and technical help. If a Teacher is unfamiliar with AI you can't use it properly. As a result the quality of education is not maintained properly. Moreover the AI base systems are based on western countries educational models and when it is applied in the local context or developing countries societies then these are not

compatible with its societies, lingual and cultural context. This contradiction can affect educational outcomes.

One more moral question is related to privacy of student's data. AI collects personal data of all students during learning process. If this information falls into the wrong hands, student privacy could be at risk. So that the world institute are focusing on creating guidelines in this regard.

Despite all these challenges the AI cannot separated from education. There is a need to prepare a clear policy, a trained staff and guidelines. The teachers should be empowered, so that they can use it as a guide and Street of a relying on it. Similarly the government and educational institutions should provide access of technology to all students equally.

III. CONCLUSION

This has been made clear through this study that artificial intelligence is just not a technology but it is such a teaching revolution that has the ability to make education accessible to all, and to provide education according to the need based of every student. It has been emerged as a new hope for disabled students which have decreased lots of obstacles in the way of learning. The research has declared that the AI based learning resources not only providing learning opportunities for disabled students but also encourage them to learn according to their needs, pace, interest and abilities. This technology is proving to be very helpful for teachers too, because with its help they can prepare specific strategies for every student in their teaching. Hence this research also has been proved that the use of this technology is not possible without some moral, social and practical challenges. Some issues such as data security, Algorithmic Bias and decrease in human relationship require further attention. If these problems are not solved seriously then it can create new problems instead of benefits. One of the most important point of this research is that the effective use of artificial intelligence is not only depend on technology human conscious and training too. A teacher should have moral insight as well as new technology so that they can use it for the human and educational objectives. Similarly the educational policy makers should set clear guidelines, training plans and equal access measures.

It can be understood by the result of the study that if AI can be used in the field of education wisely, equally and with the moral boundaries then it not only raise the standard of disabled students' education but it will make education more fair and inclusive. This technology will be truly beneficial when it guides humans rather than replacing them. It can be concluded that the artificial intelligence is the future of education but its heart is still human being. If we maintain this balance then AI in education not will open the door but it will become a new ray for disabled students.

REFERENCES

- [1]. Ahmed, S., Rahman, M. S., Kaiser, M. S., & Hosen, A. S. (2025). Advancing personalized and inclusive education for students with disability through artificial intelligence: perspectives, challenges, and opportunities. *Digital*, 5(2), 11.
- [2]. Rice, M. F., & Dunn, S. (2023). The use of artificial intelligence with students with identified disabilities: A systematic review with critique. *Computers in the Schools*, 40(4), 370-390.
- [3]. Bhimavarapu, U. (2025). Empowering Students With Disabilities in Education Through AI-Driven Approaches. In *Enablers, Barriers, and Challenges for Inclusive Curriculum* (pp. 123-146). IGI Global Scientific Publishing.
- [4]. Ramaiah, M. S., Nagarajan, S. K. S., Whig, P., & Dutta, P. K. (2025). AI-powered innovations transforming adaptive education for disability support. In *Advancing Adaptive Education: Technological Innovations for Disability Support* (pp. 73-100). IGI Global Scientific Publishing.
- [5]. Pierrès, O., Darvishy, A., & Christen, M. (2025). Exploring the role of generative AI in higher education: Semi-structured interviews with students with disabilities. *Education and Information Technologies*, 30(7), 8923-8952.
- [6]. Mahjabeen, F. AI-Powered Curriculum Design for Students with Disabilities. *Multidisciplinary Science Journal*, 1(01), 76-82.
- [7]. Guillén-Martínez, D., Alcázar-Espinoza, J. A., Ramírez-Sánchez, I., Samaniego-Cobo, T., & Villacís-Macias, C. (2025). Policies, Assistive Technologies, and Barriers in Inclusive Education: A Global Systematic Review (2019-2024). *Journal of Posthumanism*, 5(2), 208-218.
- [8]. Julien, G. (2024). How Artificial Intelligence (AI) Impacts Inclusive Education. *Educational Research and Reviews*, 19(6), 95-103.
- [9]. Antoninis, M., Alcott, B., Al Hadheri, S., April, D., Fouad Barakat, B., Barrios Rivera, M., ... & Weill, E. (2023). Global Education Monitoring Report 2023: Technology in education: A tool on whose terms?.