



# AI-ENABLED ACCESSIBILITY FOR SUSTAINABLE INCLUSIVE EDUCATION: A THEMATIC ANALYSIS

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## ABSTRACT

**Purpose:** By synthesizing recent literature on AI applications for students with disabilities, this paper identifies a relationship between AI-enabled accessibility and sustainable inclusive education.

**Methodology:** The paper conducts a thematic analysis of literature published between 2018 and 2025, including systematic reviews, scoping reviews, bibliometric studies, empirical research and policy documents, identifying key themes, trends and research gaps in AI-enabled accessibility, inclusive education and sustainability.

**Major Findings:** AI technologies like adaptive learning, intelligent tutoring, text-to-speech, speech recognition and automatic captioning improve educational access, personalized learning and student A Relationship Between AI-Enabled Accessibility and Sustainable Inclusive Education, through A Thematic Review on Research of Accessibility for learners in Disabilities. This technology can encourage equity, lifelong learning, equal learning opportunities and meaningful participation of learners with disabilities. However, long-term effectiveness, diverse disability groups, contexts of developing countries and the sustainable implementation across different educational settings and diverse learner populations in developing contexts need to be explored with further research.

**Significance of the Study:** The study highlights AI-enabled accessibility as a promising approach for advancing accessible, equitable and sustainable inclusive education. It offers insights for educators, researchers, policymakers and technology developers to strengthen inclusive practices, augment teacher capacity, develop context-sensitive AI solutions and expand accessibility for diverse learners. The research can serve as an impetus for policy making, further research and educational strategy, by supporting and initiating evidence-based decision processes. Integration of the technological advances into supportive policies, sufficient infrastructures and a responsibly and inclusively implemented education system was also stressed as being crucial to ensuring the meaningful and sustainable involvement of AI-assisted students into education.

**Key words:** Artificial Intelligence, AI-Enabled Accessibility, Inclusive Education, Sustainable Education, Learners with Disabilities

## Introduction

In an era marked by the increasing integration of digital technologies and Artificial Intelligence into the fabric of teaching and learning, the education sector stands on the brink of a revolution. From instructional delivery and assessment to communication, content generation and beyond, AI's influence on education is becoming pervasive. These advancements hold the radical potential to open doors for learners with disabilities and other needs that conventional technologies could not. However, implementing new technology alone does not guarantee inclusivity in education.

Accessibility forms the core of inclusive education, enabling individuals with impairments to fully participate in academic and social spheres. Inclusion, though, goes beyond merely placing students with disabilities in mainstream classrooms. It necessitates appropriate accommodations, accessible learning materials, effective communication strategies, supportive assistive technologies and attitudes that embrace learners' differences [9]. Simply putting a deaf student in a regular classroom will not lead to true inclusion. Lack of proper interpreting support and understanding of linguistic and cultural requirements might hinder full participation.

Digital tools have already been instrumental in overcoming such hurdles. Screen readers, voice recognition systems and adaptive interfaces have rendered educational content more accessible. Case in point, Beyene et al. [3] observe how visually challenged students grapple with insufficient ICT resources, the digital divide and a lack of choice. Screen readers are a lifeline, offering a broader knowledge base without constant reliance on external help.

AI further extends these possibilities. More than just providing access to existing materials, AI can transform them into formats that cater better to specific learners. Functions like speech-to-text, text-to-speech, automatic captioning, sophisticated image descriptions, translation and content customization can amplify traditional accessibility tools, facilitating a review that concludes AI-powered assistive technologies are poised to enhance accessibility and inclusion for disabled students in higher education settings (Dumitru et al., 2025).

Nonetheless, one must temper enthusiasm with caution, for the potential of AI is not equivalent to guaranteed triumph. For these advancements to fostering sustainable inclusive education, certain conditions must be met: affordability, infrastructure development, teacher training, and adherence to accessibility-by-design principles, ethical safeguards and responsiveness to individual learner needs. According to UNESCO [19], the 2023 Global Education Monitoring (GEM) Report stresses the imperative for relevance, fairness, scalability and sustainability when investing in educational technology, asserting that technology should complement, not supplant, human interaction [19].

Against this backdrop, the following discussion evaluates how AI-driven accessibility can contribute to achieving sustainable inclusive education, exploring both its constraints and the ethical dilemmas it introduces. It also addresses the necessary prerequisites for employing AI effectively in an inclusive context.

## 1. AI-Enabled Accessibility in Inclusive Education

AI-assisted accessibility is a system, using technology and innovation in trying to eradicate issues about, amongst other categories, learning, communication, training, as well as participation. Such technology can improve the information given, providing different types of deliveries used in learning too; enabling accessibility for learners whose needs would otherwise not be accommodated using traditionally.

Considering the mentioned directions as enhancing inclusiveness of the education, our study of literature confirms that all are being currently addressed and some examples of where AI can improve the situation already exist.

### 1.1 Customized and Flexible Learning

The fastest growing trend is the idea of customized learning. Traditional model assumes that the pupils are learning based on the same content, learning at the same speed and doing approximately similar things to achieve the goal; while in reality it hardly happens. The research points out various ways AI might support accessibility.

Dumitru et al. [5] refer to customized learning paths being one of the main features assistive technology powered by AI that is currently used by the students with disabilities today. A study made on the research 27 projects highlights benefits as well such as accessibility, engagement, as well as inclusiveness mentioning on the other hands, institutional obstacles well as technological limitations of these technologies. J. Jules et al. help to expand the notion proving that with the help of AI learning can become much more customized allowing further feedbacks to develop the progress and the increase of the learner's participation. However, their study reveals limitations when using those above mentioned.

Julien [10] highlight same advantages too, suggesting that the help of AI might become personalized as students achieve more feedbacks to expand their work and be more encouraged and feel the progress. On the other hands they indicate at the technical, infrastructural and methodical limits of those technologies.

Jamaludin et al. [8] also points to personalized and real-time analysis results of a learner's data, as an important capability of using AI in education. This may, for example help, in highlighting that learner is dealing successfully with one sort of material, and for the other one it appears to be a problem. This means they are to provide them with the alternate answers, more training material; basically giving another attempt as a new perspective of achieving the goal.

This idea is valuable as it avoids the "one size fits all" learning model. For pupils with disabilities or any other educational needs for that matter even minimal adjustments in speed, formats, feedbacks or presentation can play a significant part.

### 1.2 Assistive and Communication Features

AI also supports inclusion via tangible accessibility and communication features. These include: text-to-speech, speech-to-text, automatic captioning, image recognition, image description, translation and the like enable learners to make use of learning content in a way that better suits their needs. Melo-López et al. [13], for example, describe how AI can make material accessible, through the alternative forms of the material, which it can provide; these include image captions and transcriptions. They also drew attention, however, to problems which may arise when these are delivered without care or attention paid to users' situations. Stelea et al. [18] provide another example with the evaluation of their AccessiLearnAI model, which incorporates similar factors, like: summarised data, translation, alternative text, image recognition and speech-to-text. The users had a largely positive response towards the technology, though Stelea et al. have recommended that further evaluation and work be done with AccessiLearnAI.

In all the examples, AI has been provided as an easy-to-carry-out support system, meaning for people to understand text in their medium of choice. This allows AI to assist these learners to engage with the text without them having to change the core method, style, or content of the lesson.

### 1.3 AI in Special and Inclusive Education

Most of the further literature to be reviewed on the usage of AI in special education has also shown a great potential of AI to be the assistive tool that many learners have desired for so long, and yet there are still a few kinks that will need to be ironed for a more usable product for most learners.

Pagliara et al. [15] made a review of the usage of AI with education on learners with disabilities, as did Yang et al. (2025) in another article, this time reviewing K-12 special education. Pagliara et al. (working with 27 total articles) determined that in their collective articles, AI is being looked towards for help with individualized education for the students and easier approach to learning education, yet still faced with issues on an economic, ethical, and pedagogical level. However, in the other study (using 210 articles, which concentrated with ASD or Autism Spectrum Disorder), Yang et al. showed that there appears to have been an almost imperceptible slow trickle-down of information from tools specifically designed for assisted living into tools for education. They also saw the same issue, as previously discussed, of there being little use available of an assistive tool outside of the study of ASD, which is valuable but little help to any other field. More longitudinal studies and bigger samplings were their key suggestions moving forth.

Navas-Bonilla et al. [14] followed suit, though focusing on specific disabilities, more on sensory disabilities alone; along with specific technologies, how AI in special education worked well in those studies with devices on wheels or robotics (or if AI had some effect on those children during classes of AR/VR) could aid their education, to no avail, though, only pointing out that such assistance did not assist overall and could only be detrimental to a study.

The studies above only showed just how much more there could already have been researched up until now. Economic barriers still need discussion with bigger sample sizes, and much more research is needed to look over the other conditions and illnesses people can also be dealing with. However, it still does show its benefits for an accommodating environment in learning for all. Therefore, making everyone be included by its accommodation within the learning environment for every child.

#### 1.4 AI and Sustainable Inclusive Education

Sustainable inclusive education means ensuring education is accessible and useful for everyone students with special educational needs and disabilities (SEN/D), considering socioeconomic status (SES), location and access to resources. Sustainability is not just about using a tool for some time, it means considering whether the solution remains accessible, affordable, useful and fair over time.

Ambika and Vayola highlight various obstacles within India's inclusive education system, impacting its sustainability within a sustainable development framework. These include poor infrastructure, social stigma, unequal educational opportunity, inadequate resources and limited teacher training. AI tools alone cannot amend what has been lacking in a traditional classroom, in fact introducing modern technology whilst having such an infrastructure problem can widen the inequality.

Through Rončević and Rieckmann [16]'s article on inclusion-friendly Education for Sustainable Development, in terms of research it is limited and more towards the theoretical side that empirical evidences. In my point of view, 2023 UNESCO GEM report presents a good argument when they claimed we need evidence in assessing its utility, equity, sustainability and scalability during the use of educational technologies as a whole due to its true impact in the field of education is not fully grasped [19].

Hence, than looking purely through the technological aspect which for AI powered accessibility tool is still infant in development, it needs a combination strategy of integrating social infrastructure, affordability and teacher's abilities into consideration as well.

## 2. Teachers' Readiness to Use AI

In their role as educators in the education sector, Teachers continue to hold immense importance. No matter how advanced the technology, it cannot rival a teacher's profound understanding of a student's circumstances and whether they're a slow learner or a quick one. The insights shared by Shutaleva et al. [17], in an empirical study of a hundred and twenty-five teachers, sheds light on the attitudes towards introduction of AI as a tool to help SEN students during the pandemic.

The participants recognized the need to accommodate learners with special needs, making efforts towards inclusion. However, they expressed feeling unprepared for working within inclusive education environment and felt the need for additional training and support [17]. Factors the report considers are the amount of work required the type.

Evans et al. [6] also pointed to similar views about to the development of inclusion for students needing special care. However it does not give how the theory would work in practicality thus further solidifying my conviction to make suggestions later in this essay. As teachers are a vital part of learner and without their experience the impact would be futile.

If a teacher does have an accessibility tool powered by Artificial intelligence, the problem is not in its presence but what it would mean? When it should be used? What is its reliability? Does it align with existing forms of teaching practices?

The report further suggests the usage for teacher preparation towards accessibility, inclusive pedagogies, ethical issues and data protection and a clear understanding of its capacity through learning to carry out AI. [19]

## 3. AI, Accessibility in Education and the Indian Context

Most of the available discussion and literature is from international forums and because of this, the issues of access to infrastructure, technology and quality educational resources can be seen varying from state to state and region to region. So, the Indian context is important here.

In studies on AI and sustainable Education in India, it has been noticed that the adoption is seen varying. This implies research and policy issues can emerge from this context. A solution based on AI framework may be fit for a metro city-based, well-connected institution but not as much for a rural area or economically backward institution.

Previous section also highlighted the issues like infrastructure, unequal access, social stigma, resources, teacher training and the like for inclusion in education context in India in studies like Lopez et al. [12] and Ambika and Vayola [2] So, technology solutions may not ignore the wider context.

Internet, electricity, device, affordability, teacher preparedness, language, and regional divide are important to take into account while exploring solutions related to AI enabling accessibility for learners in the Indian context.

#### **4. Challenges and Ethical Concerns Related to AI and Inclusive Education**

While exploring various dimensions of inclusion, it appears in the existing knowledge forum AI technology is never considered simple or without a complex aspect. Many studies see the prospects but question their reach, monetary challenges of deployment, privacy issues, prejudice concerns, and the place of humans in technology-supported education.

##### **4.1 Digital Divides and Infrastructure**

Based on infrastructure like the constant supply of electricity, strong internet connection, device accessibility, and technical support, an AI-based teaching tool relies on. Lacking access to the said facilities, tools, even well-thought-out ones, may be useless.

Melo-López et al. [13], Beyene et al. [3], Lopez et al. [12] and Ambika and Vayola [2] have talked about the infrastructure-related issues surrounding access and use of technology in education. Their discourse also covers the situation found in India.

Therefore, the questions are not about the availability of tools but for whom who may have access to it?

##### **4.2 Cost and Affordability**

The concern about affordability related to advanced AI tools and technology for learning is serious. Most need paid apps and advanced equipment, devices that run smoothly as well. So, for low-resource students and institutions, such expenses may be too much.

Pagliara [15] identifies economic concerns which are pedagogical and ethical limits in relation to AI tools with a special education concern along with Khan and Julien [10] (2024)

If only with plenty of resources, learners can have access to efficient tools backed by AI-based solutions, it may widen up the existing divide of resources, leading the society less inclusive than ever.

##### **4.3 Privacy and Data Protection**

When working on personalized solutions, a heavy use of learner data is natural in AI-based systems. It generates security, data use, and privacy concerns related issues. Data-related issues in the use of AI-based solutions for learning are discussed in Chalkiadakis et al. [4] and Jamaludin et al. [8] as well. With children as the primary beneficiary of such a solution or disabled people, such issues get sensitive. Their educational and personal data may need protection more.

##### **4.4 Algorithmic Transparency and Ethical Use of AI**

Another area of concern is bias. AI systems are trained upon data and these shape, limit or expand the possibilities for its interaction with a user or the responses it produces. Khan [11] (2024) raises this, as does Stelea [18] and others, and indeed Pagliara [15] and his group and links it to considerations such as race or gender to highlight the biases that can be created in AI systems even down to a simple chatbot. Stelea et al. raise awareness on various ethical issues and Pagliara et al. also point to concerns. Khan, again, has a different approach in that he describes how AI can empower disabled users by enhancing accessibility and autonomy. Again, this is key to being able to offer inclusive education i.e., not for it to perform well for one group and not so well for another.

##### **4.5 Human Interaction**

Education is not purely an exchange of data. Relationships, encouragement, social interactions, empathy and judgment are also crucial elements in learning. Julien and Khan [11] place emphasis upon human interaction in this context, as does the 2023 UNESCO GEM report entitled, Technology in Education A Tool on Whose Terms? The report argues that technology should complement, rather than substitute, human interaction. With this in mind, AI is unlikely to fully take over from humans. In inclusive education, this aspect is especially relevant for certain people, as with SEN/D individuals for whom learning is a relational process, it is even more so. Perhaps less than content they access, human support.

#### **5. UNESCO GEM 2023, Technology in Education - A Tool on Who's Terms? And AI Enables Sustainability**

The 2023 UNESCO GEM report-Technology in Education A Tool on Whose Terms? -is an exemplary framework for thinking about the role of technology and its relationship with the SDGs and inclusive education [19]. Instead of presenting a picture in which technology provides an effortless solution to educational woes, the report considers it an input, medium, skill, planning tool to education and something to be considered for its social and cultural aspects. More specifically, technology itself cannot simply replace the conditions for which humans are in a prime position. The GEM report concludes with issues relating to what extent to prioritize this (in view of sustainability), whether education is a zero-sum game or an arena within which tech is just there to maximize outcomes. It further adds there exists a distinction between using tech to promote inclusivity for people with SEN/D and promoting tech in education for all inclusive populations The question should not merely be when considered from within that

paradigm, ‘can AI do something?’ instead, it should be, ‘does it do something useful, does it have equity, sustainability, and relevance within a specific context relating to education?’

## 6. UNICEF's AI Strategy 2025-2030 and Child-Centered Inclusive Education

UNICEF has adopted a child-centered approach to AI development and implementation by framing the AI Strategy 2025-2030: AI for Every Child in terms of children's rights and wellbeing. This adds an important to the discussion.

There are three broad areas identified for priority action here – using AI improve programs, improving operations and advocating child rights. Key immediate action is targeted, in the following areas: strategy, value realization, data and AI infrastructure, risk, people and partnerships [20].

The UNICEF notes 5 child-focused responsible AI principles: purpose, do no harm, protect data, human oversight and child participation [20]. These principles are significant today, as kids using AI or engaging in other digital ways are now not only tech users, but also have certain rights related their privacy, their protection, dignity and more.

Many concerns noted through the paper align with the UNICEF approach. Privacy and data protection, discrimination and a need for human oversight and participation should thus be considered from the begin of AI introduction – prior instead of after problems or shortcomings begin occurring.

## 7. Research Gaps in Relation to AI and Individuals with SEN/D

Literature points at the substantial prospective aspects related with using AI, although there still are gaps left to resolve. Limited and uneven evidence makes concluding with long-term effects of AI-enabled accessibility not a straight forward try.

### 7.1 Longitudinal Studies

There is a need in longitudinal search; it being a topic touched upon in articles by Yang et al. (2025) , Chalkiadakis et al. [4] and by Stelea et al. [18] Many articles analyses experiences from learners' perspective or from teachers point-of-view. Does AI improve students' and other people with needs' performances, learning achievements, does it make them have more positive experiences, make them become independent as well or more involved with their lives – not for just when the study happens to catch on, but actually in a longitudinal manner?

### 7.2 Opportunities for Individuals with Other Educational Needs

Current literature deals mostly with sensory disabilities and ASD related challenges in using AI and finding appropriate solutions accordingly. Articles by Pagliara et al. [15] and Navas-Bonilla [14] etc. point at needs of greater coverage concerning learners with cognitive, intellectual and multiple disabilities.

The researchers in the mentioned articles recommend setting a common baseline which would support checking the use of a given tool throughout different groups and not limiting it to specific ones. Moreover, it is key to identify tools adaptation needs – tools working well once adjusted with children on ASD may not necessarily match accordingly individuals suffering with diverse conditions (e.g. intellectual disabilities or alike sensory problems) and so there must be attention to adaptation to different learners needs.

### 7.3 Opportunities for Individuals with Diverse Backgrounds and SES

There is a worry attached to the current concentration of research in terms of geography and of socioeconomic groups it deals with. It tends to revolve in high-income, urban cities leaving out rural, low-resource places or the poorer, economically struggling with less opportunities. In India regional variance may have importance and relevance in AI-based accessibility on account of difference found in connectivity of people, of language people understand, of schools and quality thereof. More effort should be made in including those with rural, low-resource background and with a poorer SES.

### 7.4 Teacher Training and Readiness

Articles by Shutaleva et al. [17] and by Evans et al. [6] state teachers' additional preparation is needed.

It is not enough that they only know what any particular tool entails. Instead they need to know when a specific tool should come in useful, what criteria should they measure outputs against, how they might protect learner's data.. AI should not in any way lead to reduction of face-to-face contact and human-based care, in order for students with SEN-D to feel themselves cared of accordingly.

### 7.5 Ethical Implementation

Beyond accessibility and infrastructure, an important area currently lacking in research relates to how ethically AI can be put into practice. There is currently a lack of inadequacy of unambiguous recommendations as regards the same. It was identified by Pagliara et al. [15] and Beyene et al. [3] that more specific guidelines are required for the effective and ethical usability of AI.

Further research therefore needs to be conducted for issues such as frameworks for privacy, accessibility issues, the ethical monitoring of bias issues, informed participation, ways on how to increase transparency about the implementation of AI and accountability issues.

## 8. Policy Implications

AI as an inclusive education technology has implications to policies in several ways too. Based on this, recommendations could also be made for policy makers on how AI can be better used for inclusive education. Research for policy makers is required as regards policy, guideline and strategy. Rončević and Rieckmann and Ambika (2025) and Vayola [17] have highlighted the problems

which policy makers currently present as well as recommended on which specific areas more work is required. Policy makers should focus not only on adoption of the technology, they should more focus on matters of affordability, infrastructure, teacher training, ways to regulate fair usage of AI as well as ethical use of AI, data protection standards for students and sustainability concerning the use of AI as an inclusive education technology.

## 9. Learner Engagement, Participation and Feedback

For developing the technologies to support the people with disabilities participation is of utmost importance. As has been already identified by Khan [11] that the individuals with the disabilities should too become part of the technology developers so as to ensure technology better matches their requirements. This recommendation requires more attention in educational AI. SEN/D learners should be encouraged to contribute with ideas of what they require than imposing upon them which technology should be adapted and in what manner.

## 10. Significance of the Study

As has been already discussed previously, an attempt has been made to discuss the role for AI in inclusive classrooms by reviewing literature that relates to technology solutions that promote inclusive education and its related problems and complications.

One notable point that was highlighted multiple times throughout the reviewed literature, was how AI can reduce the existing boundaries that SEN/D learners have to cope with on a day-to-day basis. Examples include communication, accessibility issues that SEN/D learners face as well as access barriers they experience when relating and communicating with and understanding lessons. For teachers working with SEN/D as well as other students, AI could offer alternative materials, personalized studies, give feedback as well as offering various kind of access barriers such as for example the screen reader that permits teacher to treat all students on more equal terms.

For educational institutions too, findings confirm current research needs, that relate, inter-alia to appropriate policies and well-structured, as well as financed infrastructure, necessary resources and safeguards as regards to the ethical use of AI, for example the lack of accessibility for people living in remote communities, the question of affordability about the inclusive education tools that have implications (and are not limited to) for the privacy as well for access that the marginalized communities could experience due to a lack or loss about access. With great responsibilities there come along with it powers in this context, for technology developers too. In their capacity as developers of the AI technology, accessibility should be considered at the designing level than be considered in later instances or as an optional feature.

Hence technological development for AI means inclusion in broader definition too within the sustainable development plan: when opportunities in this area become more prominent, only in companionship of clear cut policies, resources, human and sustained effort in planning are technological benefits for the society are expected, with time this would have significant implications for society about sustainable inclusive education.

## 11. Recommendations

Based on this work, there are several recommendations for the advancement of our understanding as to how AI can further benefit inclusive education

### 11.1 Develop Accessibility-Based AI

AI applications in education must be designed with accessibility at its core. Functions such as automatic captions (for students in need of same) or automatic alternative texts with speech recognition option have become available for improving students' accessibility. Other ways this can be extended is through screen readers too. The speech recognition option as well screen reader functionality will help students in need thereof.

### 11.2 Support teachers' readiness with regards to inclusive education too

Teachers in schools are in dire need of practical education both about the strengths as well as limitations of inclusive education supported by AI, especially so when it comes to the usability thereof for students' greater benefit. Further training is needed about the subject too which should include teachers' capacity for enhancing SEN/D learners, awareness about accessibility for people of disable issues, ethical dimensions concerning the use and implications of privacy, as well as a greater sense of privacy relating people using the inclusive AI for learning purposes; for being able to evaluate as well as evaluate results which they would be able to extract from such learning.

### 11.3 Adequate infrastructure and resources; with regards to the vulnerable populations too

Inclusion of AI in education should not create problems among sections of population with access problems. SEN/D children will be likely in the greater need of such infrastructure and resources. Affordable and/or free of charge education facilities for learning can benefit this population segment too. Besides affordability in acquiring the accessories needed for SEN/D learners to adapt more easily with AI use (of devices and gadgets), further points that deserve greater attention include better connectivity issues for them and to develop a wider acceptance towards the use of software that they find would benefit them to learn in society and more support from society so as to better prepare the ground from the benefits that inclusive use of the AI offers.

### 11.4 Development of relevant institutional policies, on privacy and ethics too

The educational institutions have a duty towards clearer defined strategies for AI usage about students, with attention given to the collection and retention of personal data/access, use or manipulation of children's use of data that may affect the child themselves and/or his well-being too, also referred to more broadly as privacy issues; the element of consent (i.e. to what uses have children consented to the access to the information and for how long. The ethical considerations also arise including fairness towards all users as relates accessibility, bias relating various population segments and a greater element of accountability as relates privacy and ethical concerns towards children and students too.

### 11.5 Raise Awareness about Ethical Considerations and Challenges Related to Using AI in Education

Educators, administrators, students and technology developers should acknowledge AI as a tool that can impose risks as well as opportunities. Ethical awareness should therefore be a part of AI literacy and not an issue regarded as separate.

### 11.6 Conduct Further Studies on Individuals with Various Educational Needs and Backgrounds

Several disability groups, socioeconomic backgrounds, whereabouts and levels of education require a greater number of studies based on tangible evidence. Furthermore, longitudinal research should be carried out into benefits offered by AI are sustained or are lost over time.

### 11.7 Evaluate AI in Relation to Educational Outcomes

Whether or not AI is used to the benefit of educational outcomes as well as that of engagement of the students' needs to be assessed. Evaluation processes must, however, refer to AI use as being fit for purpose (as put forth by UNESCO), not simply better because newer technologies are available.

### 11.8 Maintain Human Oversight

Human judgment must not lose its part in AI enhanced or supported education. The ability of the teachers and educators to have sight of, query and override AI-mediated decisions should be safeguarded.

The recommendations are concomitant with those suggested by UNESCO as well as the importance it attaches towards appropriate, equitable, evidence-based and use of pedagogically sound technologies to complement human interaction [19]. They also reflect the importance put forth by UNICEF about children's rights, safety, data protection, human influence, oversight and participation of the children when being supported by artificial intelligence (AI) in education or other areas [20].

## 12. Conclusion

The rise of AI-enabled accessibility provides for an important possibility to support sustainable inclusive education, especially for all learners who may face barriers in accessing educational content, communicating or participating in traditional settings. Text-to-speech, speech recognition, captioning, image descriptions, content alternatives and translation tools have the potential to make education more accessible. AI can also help personalized education, learner attention and review.

Yet, technology has in itself no solution to offer. It requires consideration as to how, where and to whom technology is utilized. Whether it be affordability, infrastructure issues, issues concerning teacher preparation, privacy, algorithmic bias, accessibility or human oversight, those cannot be considered as mere side issues. They determine in what instance whether AI contributes to the inclusion and in what instance makes an active obstacle to it.

Several questions remain unanswered in scholarly literature. More practical and longitudinal research is required; specifically amongst students with less researched disabilities, amongst those with and without varying socioeconomic and geographical challenges. The role of the voices of the learners must also be heightened about decision making concerning design and utilization of education that rests upon use of technological devices.

Substitution of human teaching with AI is unlikely to contribute to a sustainable future inclusive system. AI use where barriers to education can be suitably reduced, yet relationships or judgments of technology free educators and learning from and with peers or mentors are maintained holds more promise. When coupled with suitable measures about policies as well as infrastructure accessibility, preparation of the teachers within an educational institute as an entity, ethical protection measures as well as children's participation have been designed, established and executed; can AI-enabled accessibility become part of a more all-inclusive as well as sustainable method to education. .

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