AI as a Facilitating Tool to Inclusive Education Simplifying Diverse students in English classes

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Abstract—**Inclusive education is based on the idea that regardless of any disability, language differences, socio-economic disadvantages, and cognitive differences all learners should be able to enjoy equal opportunities to significant learning processes. The English classrooms in the multilingual and multicultural scenario of India usually have difficulties in meeting this diversity by using traditional pedagogical methods only. Artificial Intelligence (AI) has been considered a disruptive resource that can be used to overcome such complexities and help build inclusive learning communities. In this paper, the author will discuss how AI can be used to promote the inclusive nature of English education by discussing how adaptive learning platforms, text-to-speech systems, automated feedback generators, and multimodal digital resources can address the needs of diverse learners. The study presents the changing relationship between AI and inclusive pedagogy through a synthesis of existing literature, policy frameworks, and classroom practices using the qualitative method of analysis. The results show that AI has a great positive impact on accessibility, differentiated teaching, and enhanced engagement among learners and allows teachers to respond more effectively to linguistic, cognitive, and emotional variation. Nonetheless, the introduction of AI also comes with such challenges as digital inequity, algorithmic bias, ethical issues and poor teacher preparedness. The paper ends up with the suggestions to the appropriate and context-responsive application of AI in English pedagogy in accordance to the National Education Policy (NEP) 2020 vision of universal and equitable education.**

Index Terms—**AI learning in education; Inclusion learning; English language instruction; Assistive learning; Multilingual learners; Universal Design of Learning (UDL); NEP 2020; Accessibility tools.**

I. INTRODUCTION

Inclusive education has come to be accepted as a moral duty and also as a pedagogical requirement. It does not simply focus on the physical segregation of students whose needs are not similar into general classrooms but rather it focuses on effective participation, equal access and elimination of structural obstacles to learning. As noted by UNESCO (2020), inclusive education necessitates a complete overhaul, i.e. responsive pedagogies, flexible curriculum, and equal allocation of learning resources. It is more applicable now than in English classrooms where linguistic diversity, different cultural backgrounds and varying cognitive profiles tend to create unequal participation, understanding and confidence among students.

In India school English classrooms and higher learning institutions contain first-generation students, rural and tribal students, learners with disabilities, multilingual students and students with socio-economically disadvantaged backgrounds. The conventional means of teaching like the chalk-and-talk teaching, standard worksheets, and lectures cannot serve this broad range of learner needs. These approaches tend to discriminate against some types of learning styles in favor of other students who need special activities, slower or more graded progress, or alternative forms of presentation.

Artificial Intelligence (AI) offers new opportunities to rethink the ways of teaching English that respond to this diversity. Grammar trainers, text simplifier tools, real-time captioning systems, pronunciation coaches, adaptive reading applications, and multilingual dictionaries are all tools that provide individualized and customizable learning opportunities. According to Holmes et al. (2019), AI systems can dynamically change the content of instruction based on the performance of a learner, which is why it can be useful in serving both remedial and advanced students at the same time.

AI is thus an intermediating element between the varied needs of learners, and the instructional needs. It allows educators to reinvent curriculum implementation, streamline feedback systems, redesign assessment, and design inclusive learning experiences that cut across diverse learning patterns. The paper describes the possible advantages of AI in the inclusive classroom with English language, issues related to the application of AI, and conditions under which AI may be adopted in a responsible and efficient way.

II. OBJECTIVES OF THE STUDY

The article will review the possibility of the AI to enhance the inclusive education in English by evaluating the effectiveness of AI-guided tools to learners with disabilities, learners who speak multiple languages, and learners who learn at different paces. It aims at assessing the way AI helps to improve reading, writing, speaking and understanding and examines the limitations and ethical concerns to AI-based inclusion. The paper also seeks to provide a recommendation to teachers, curriculum developers and policymakers regarding the effective application of AI in the inclusive models of pedagogy.

III. REVIEW OF LITERATURE

Inclusive Education and its needs.
The inclusive education requires the flexible planning of the curriculum, the diversification of the learning tasks, availability of the learning materials, and the constant responsiveness to the needs of the students. According to Ainscow (2020), inclusion is not a supportive layer on top of school culture and pedagogy but a reorganization of these aspects. This necessitates changes in the speed of instruction, incorporation of multimodal texts as well as creation of culturally representative samples that entail the background and experience of the students in the English classrooms.

IV. USE OF TECHNOLOGY AS CHANGE AGENT IN INCLUSIVE LEARNING

Digital interventions have been known to expand accessibility to learning so that students with disabilities and other learning needs can get involved.

The framework proposed by Rose and Meyer (2002) is the Universal Design for Learning (UDL) that promotes offering various ways of representation, engagement, and expression. UDL principles are compatible with digital media, audiovisual materials and interactive learning systems since they provide learning environments that are flexible and customizable.

V. THE ROLE OF AI IN EDUCATION

AI increases personalization through the analysis of the information provided by learners and adjusting instructional material based on their performance. According to Holmes et al. (2019), the AI allows automatic responses, natural language processing systems, task sequencing, and intelligent tutoring systems. AI-based automated writing assessments are effective in assisting students to correct their grammar, vocabulary, and sentence structure, and conversational AI-based systems provide students with language-specific support.

AI-Supported Inclusion
AI can be particularly useful with disabled learners. Alpaslan and Yildiz (2021) discovered that phonics tools and text-to-speech applications based on AI can assist dyslexic students in reading written text. In the same way, AI-based captioning is helpful to learners with hearing disabilities, and pronunciation and translation technology caters to the needs of multilingual students. According to Zhao (2022) AI also makes multilingual inclusivity possible due to reduced language barriers and real-time translators and speech recognition.

VI. RISKS AND ETHICAL CONCERNS

As Selwyn (2021) warns, in its application without sturdy ethical principles, AI can reproduce biases existing in its training data and harm user privacy. In developing nations such as India, the digital divide is worsened by inequality in device access and internet access. Available literature provides good information but does not give an in-depth analysis of how AI affects the Indian English classes, which is what this study tries to do.

VII. METHODOLOGY

The conceptual framework of this study is qualitative as it will be founded on the examination of the literature, the policy reports, e.g., NEP 2020, UNESCO reports, case studies of the AI use in classrooms, and evaluations of AI-based language learning systems. The research recognizes significant themes and puts them in the perspective of inclusive English education. There was no primary data collection and the analysis is a synthesis of literature available to derive theoretical and practical information.

VIII. ARTIFICIAL INTELLIGENCE AS A MEDIATOR OF INCLUSION IN ENGLISH CLASSES

AI meets the needs of diverse learners in English classes through specialized assistance which is specific to learners. In the case of students with learning disabilities, including dyslexia, dysgraphia, ADHD, and auditory processing difficulties, AI can be of great assistance in the form of a highly structured support that will decrease the cognitive load. Text-to-speech engines break up complicated passages and transform them into audio so that one can easily extract the meaning. The speech-to-text applications can assist the struggling learner by enabling them to dictate answers. Phonics software based on AI would subdivide more complicated words into smaller phonetic units. Such interventions help to eliminate anxiety and increase engagement as well as provide a non-judgmental learning atmosphere.

AI-based tools are also useful in case of multilingual learners. The linguistic diversity of India leads to extensive differences in the level of English proficiency, and AI can help to simplify advanced English-language texts, provide translations of regional languages into English in real-time, and teach users the pronunciation of accents without accent. These tools will facilitate the implementation of translanguaging techniques that NEP 2020 advertises to allow learners to acquire English as their second language without compromising their linguistic identities.

In the case of students with physical disabilities, AI increases accessibility with automatic captioning, optical character recognition, which can translate printed text to audio, as well as customizable e-books in which font size, spacing, and contrast can be customized. High-performing students can also have learning enriched with AI, since it delivers more advanced reading content, creative writing challenges, more complex grammar problems, and AI-assisted debate or analysis assignments. Therefore, AI enhances inclusivity by benefitting both the struggling learners and those who need higher challenges.

IX. INCLUSIVE ENGLISH PEDAGOGY AND ARTIFICIAL INTELLIGENCE

The adaptive learning platforms are AI-powered and change the level of difficulty and learning paths automatically depending on the performances of the learners. The software like Duolingo reduces the number of teachers to work and offers differentiated learning experiences. Writing and understanding are helped with the assistance of natural language processing (NLP) tools, which provide the correction of grammar, rephrasing of sentences, simplification of text, and enriching vocabulary. The tools give corrective feedback in a confidential manner thereby eliminating embarrassment and fear of being judged. Immersive Reader, an accessibility-oriented AI application offered by Microsoft, assists struggling readers with visual spacing options, use of color filters that are dyslexia-friendly, line-based reading, and breaking down syllables. Classroom management tools that use AI also help a teacher to automate grading, produce differentiated worksheets, monitor progress, and create enrichment or remedial activities. Such tools eliminate the repetitive administrative tasks and allow teachers to concentrate on the individualized contact and relationship-driven pedagogy.

X. THE PEDAGOGICAL IMPLICATIONS OF AI IN INCLUSION IN ENGLISH EDUCATION.

Instructional inclusiveness is enhanced by AI because it facilitates personalized and differentiated learning opportunities. It analyses the performance trends of the learners, and provides individualized reading, writing and speaking assignments, to bridge the gap in learning. Gamified learning elements like badges,

levels and rewards enhance engagement and make English learning an enjoyable and motivating activity. AI can improve literacy rates by boosting word recognition, sentence structure, comprehension strategies and accuracy of pronunciation. Teachers gain because AI enhances their teaching capacity through intelligence on learner development hence being able to design inclusive learning tools and tailor instruction better. Thus, AI will act more like an educational companion, and not a substitute to the teacher.

XI. PROBLEMS AND MORAL ISSUES

Although AI has many advantages, it has a number of challenges in inclusive education. The digital inequity in India is one of the root causes as a significant number of learners do not have access to a credible internet or digital tools. Another issue of AI is the issue of privacy since the technologies use voice data, writing samples, and behavioural patterns that must be highly regulated. AI can also be affected by algorithmic biases, and thus a dialect or accent or language variation can be misunderstood, which can result in erroneous feedback. Another significant issue is the preparedness of the teacher because a lack of awareness of AI tools can become an obstacle to successful integration. The excessive use of AI may decrease critical thinking and learning.

XII. ANALYSIS AND DISCUSSION

The thematic analysis indicates that AI enhances accessibility of learners with sensory impairments, learning disabilities, and speech disorders by offering them a responsive, stigma-free support. The linguistic inclusiveness provided by AI can also include real-time translation and multilingual scaffold, which is especially useful to first-generation and rural students. AI helps to promote holistic growth through enhancing confidence, self-sufficiency, and collaboration with peers. The role of teachers is fixed to designing and facilitating learning by being more personalized in the role of content delivery. Nevertheless, the possibilities of AI can be maximized with the help of effective ethical regulation, data protection strategies, and fair access to technologies only.

XIII.   FINDINGS

The researchers conclude that AI has a significant contribution towards the achievement of inclusive English teaching because it meets the needs of the various learners. It is consistent with the guidelines of UDL and requirements of NEP 2020, improves the results in reading, writing, speaking, and comprehension, and decreases the linguistic and cognitive obstacles with the help of multimodal support. Nevertheless, issues of digital inclusion, teacher preparedness, and data privacy should be considered so that AI may be introduced in a meaningful way.

XIV.   IMPLICATIONS FOR PRACTICE

The results highlight the importance of including AI literacy in the educational programs of teachers to make them proficient in using AI tools. The schools ought to implement AI-enabled reading and writing tools in the teaching-learning activities and make investments in digital infrastructures to promote fair access to devices. Ethical standards on the use of AI should be established to ensure that student data is not compromised, and they use it responsibly. AI should be considered as a supporting force and not a replacement of human education.

XV. LIMITATIONS

This research work is a theoretical one and lacks empirical evidence. Considering the dynamics of the development of AI, the topicality of some tools and findings may change over time. Moreover, the generalizability of the conclusions can be different in rural and urban educational settings in India.

XVI.   CONCLUSION

AI provides the best opportunities ever in closing gaps in inclusive English education. It helps learners with disabilities, multilingual kids as well as diverse academic requirements hence creating more responsive and equitable classrooms. As long as technological, ethical, and infrastructural issues are still occurring, the careful and prudent usage of AI may help achieve the NEP 2020 vision of accessible, flexible, and learner-centred education. The next

phase of English teaching is the harmonizing relationship between human teachers and artificial intelligence in which they collaborate to produce enabling learning settings.

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