

## Beyond the Blackboard: AI and English Language Pedagogy in Indian Higher Education

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### Abstract

Artificial Intelligence (AI) is playing an increasingly important role in English language teaching in Indian higher education. This growth is supported by better digital infrastructure, strong policy focus on educational technology, and the varied needs of learners. AI-based tools such as adaptive learning platforms, automated feedback systems, and conversational agents help provide personalized learning, increase student engagement, and support timely assessment. However, the use of these technologies also brings challenges, including lack of teacher training, unequal access to digital resources, issues of cultural suitability, bias in algorithms, and concerns about teaching effectiveness. This paper explores the use of AI in English language teaching in Indian higher education system by examining learning theories, institutional practices, and learner experiences. It argues that AI should be used to support teachers rather than replace human instruction. For AI to be used effectively, continuous teacher training, changes in curriculum design, sufficient technological infrastructure, and strong ethical safeguards are necessary. When used carefully and thoughtfully, AI can support learner independence and language development. However, careless or unplanned use may increase inequalities and reduce meaningful classroom interaction.

**Keywords:** Artificial Intelligence, English Language Pedagogy, Indian Higher Education, Adaptive Learning Platforms, ELT, Ethical Safeguards

### **Objectives of the research paper**

The present research paper aims to:

1. Examine the role of Artificial Intelligence in English language teaching and learning in Indian higher education.
2. Evaluate the pedagogical benefits and challenges of AI integration in ELT.
3. Suggest best practices for meaningful and equitable implementation of AI in English language education.

### **Research Methodology**

This study adopts a qualitative, interpretative, and literature-based methodology to explore how AI affects English language pedagogy in Indian higher education. The research relies on secondary sources, including peer-reviewed journal articles, academic books, policy reports, and case studies related to AI in education, ELT, and Indian higher education reforms. A critical content analysis approach is employed to identify themes, patterns, opportunities, and challenges associated with AI integration in English language teaching.

### **Introduction**

English language proficiency is very important in Indian higher education. It affects students' academic performance, job opportunities, and chances to study or work globally. In India's multilingual classrooms, English is taught both as a subject and used as a medium of instruction in many courses. This situation creates several teaching challenges (Ramaiah 45). Traditionally, English language teaching (ELT) in Indian universities has been teacher-centered, focusing mainly on textbooks, lectures, and standard examinations. Such methods often fail to meet the diverse needs of learners, reduce fear of using English, or develop effective communication skills needed in real-life situations.

With the growth of digital technology and wider access to the internet in India, new possibilities have emerged for improving language teaching. One important development is Artificial Intelligence (AI). AI refers to computer systems that can perform tasks similar to human thinking, such as learning from data, adapting to new information, and making predictions (Russell and Norvig1). In English language teaching, AI is used in tools like intelligent tutoring systems, automated writing feedback programs, speech recognition software, and chatbots that help students practice conversation. These tools can provide personalized, flexible, and more engaging learning experiences.

However, the use of AI in English language teaching also presents several challenges for teachers and policymakers in Indian higher education. Problems such as unequal access to technology, lack of teacher training, ethical issues, and cultural suitability need careful consideration. This paper examines the present and future role of AI in English language teaching and learning in Indian universities and colleges. It discusses theoretical ideas, practical uses, institutional practices, challenges, and best practices for effective integration. The study argues that AI should support and strengthen human teaching, not replace it.

### **Theoretical Foundations of AI-Enhanced Language Learning**

The use of Artificial Intelligence (AI) in language teaching should be based on well-known learning theories. This ensures that AI is used for effective teaching and learning, and not just as a new technology. Constructivist and sociocultural theories help explain how AI-based tools can support active participation, interaction, and guided language learning.

#### **a) Constructivism and Sociocultural Perspectives**

Modern language teaching focuses on active learner involvement, interaction, and guided support. Constructivist theory suggests that learners build knowledge by actively engaging with learning materials and reflecting on their experiences. Learning activities that encourage problem-solving, group work, and personal involvement help learners understand and remember language better.

Sociocultural theory, especially proposed by Vygotsky, highlights that learning happens through social interaction. Learners develop language and thinking skills by interacting with teachers, peers, or other support systems within the Zone of Proximal Development (ZPD) (88). In this context, AI tools that provide adaptive feedback and guided support can help learners move forward by offering assistance that is slightly above their current level of ability.

## **b) Learner Autonomy and Self-Directed Learning**

AI tools support learner autonomy by allowing students to learn at their own pace, practice independently, and receive quick feedback. Learner autonomy means that students take responsibility for their learning by setting goals, checking their progress, and reflecting on their performance (Little 23). AI systems help learners identify their mistakes, study at a comfortable speed, and return to difficult areas whenever needed, without depending only on classroom teaching. This encourages self-directed learning and helps develop lifelong learning skills important for academic success.

## **Applications of AI in the Indian ELT Context**

The use of AI in English language teaching in Indian higher education has increased with the growth of digital infrastructure and online education. Government and policy reports show a rising use of learning management systems and AI tools, especially in urban colleges and universities (Government of India; NITI Aayog). The COVID-19 pandemic further accelerated this trend. AI-based ELT helps address common challenges such as large class sizes, limited teaching time, and different levels of language ability among students.

## **i) Adaptive Learning Platforms**

Adaptive learning platforms use data analysis and machine learning to customize language learning based on students' performance, level, and learning speed. In Indian higher education, where classrooms often have many students, these platforms help manage learner diversity. They provide simpler grammar practice for weaker students and more advanced

tasks for stronger learners, considering different linguistic backgrounds and proficiency levels (Patel and Singh 112).

## ii) Automated Feedback and Assessment Tools

Automated feedback and assessment tools represent an important application of AI in English language teaching, as they provide quick and individualized feedback on learners' work. Using natural language processing technologies, AI systems analyze written texts for grammar, sentence structure, coherence, and appropriate language use. This supports repeated revision and encourages accuracy and reflective learning (Zhu and Mei 76). In Indian higher education institutions, where teachers often handle large numbers of students, such tools reduce the burden of routine assessment by automating initial evaluation and error identification. This enables instructors to focus on higher-level aspects such as idea development, organization, and critical thinking.

## iii) Conversational Agents and Speech Recognition

AI-powered conversational agents and speech-recognition technologies help address ongoing difficulties in developing speaking skills in English. These tools create simulated interactive conversations, assess pronunciation and fluency, and offer corrective feedback in a low-stress learning environment. By allowing learners to practice speaking beyond the limits of the classroom, these technologies are especially beneficial for students from rural areas or low-exposure environments where opportunities for real-life English interaction are limited.

## The National Education Policy (NEP) 2020

India's *National Education Policy (NEP) 2020* represents an important change toward the use of technology in teaching and learning in higher education. The policy clearly identifies digital technologies as key tools for improving access to education, enhancing quality, and ensuring equity across all subjects, including language learning. It strongly supports the use of digital platforms, blended and online learning methods, and regular teacher training in new technologies as part of a broad reform of the education system. In English language teaching,

NEP 2020 encourages the use of technology to promote multilingual education, flexible learning paths, and inclusive teaching practices that address the varied needs of learners.

The policy places strong emphasis on flexibility, learner-focused education, and skill-based learning outcomes, which closely match the strengths of Artificial Intelligence (AI). AI-based tools can help provide customized instruction, personalized feedback, and continuous assessment, all of which support the learner-centered approach promoted by NEP. In addition, NEP's focus on lifelong learning and digital skills highlights the importance of AI-supported English language teaching in preparing students for a global and knowledge-based economy.

However, even with NEP 2020's forward-looking approach, the use of AI-based teaching methods is not consistent across Indian higher education institutions. Some universities have introduced AI-supported tools in language labs, online learning systems, and assessment practices, but these efforts often lack clear long-term planning and strong institutional coordination. The absence of common guidelines for evaluation, monitoring, and effective teaching integration reduces the overall impact of AI. In many institutions, technology is adopted to meet short-term innovation goals rather than to bring about sustained curriculum reform, leading to uneven and disconnected practices.

### **University Initiatives and Pilot Programmes**

At the institutional level, many Indian universities and autonomous colleges have started pilot programmes that use Artificial Intelligence (AI) in English language teaching. These initiatives include AI-based language laboratories, automated tools for writing evaluation and assessment, and chatbots integrated into learning management systems. Such efforts show a growing understanding of how AI can improve student participation, offer personalized feedback, and help manage large classroom settings.

However, most of these initiatives are small in scale and usually limited to particular departments or selected groups of students. The lack of clear institutional strategies, limited faculty training, and shortage of resources prevent wider adoption. To create a meaningful

impact, institutions need to develop integrated frameworks that connect AI use with curriculum planning, assessment methods, teacher training, and ethical guidelines. Without systematic planning, AI is likely to remain an experimental addition rather than a powerful tool for improving English language teaching.

### **Perceptions of Teachers and Learners**

The successful integration of AI in English language teaching is strongly influenced by the views and experiences of teachers and learners, which affect its acceptance and educational effectiveness. Understanding these perceptions is necessary for thoughtful and long-term implementation.

### **Learner Perspectives**

Research on learners' views of AI in English language learning shows both positive interest and concern. Many learners value the flexibility provided by AI-based practice, the quick feedback they receive, and the opportunity to practice language skills outside regular classroom hours. For students who feel nervous during face-to-face communication, interacting with AI chatbots offers a less stressful way to practice speaking. However, some learners express dissatisfaction with feedback that feels mechanical and lacks clear explanation or encouragement. Error messages without supportive guidance may cause confusion or reduce learner motivation.

### **Teacher Perspectives**

English language teachers in Indian higher education show careful optimism about the use of AI. While many recognize that AI can support teaching and reduce workload, they also express concerns about loss of teaching independence, job security, and the time and effort required to learn new technologies. Many teachers feel unprepared to use AI tools effectively because of limited training, weak institutional support, and insufficient understanding of AI-based teaching methods. These views highlight the importance of professional development

programmes that present AI as a supportive teaching partner rather than a substitute for human teachers.

### **Challenges and Critical Concerns**

Although AI offers new opportunities for improving English language teaching, its use in Indian higher education also presents serious challenges related to access, teacher readiness, ethics, and teaching practices. Addressing these issues is necessary for inclusive and sustainable adoption.

#### **i) Digital Divide and Access Inequality**

One of the biggest challenges to fair AI use in India is the digital divide. While urban universities and well-funded colleges increasingly adopt technology-based learning, many rural and resource-poor institutions struggle with weak internet access, lack of devices, and limited technical support. These differences can increase existing educational inequalities, as students from disadvantaged backgrounds may not have proper access to AI tools either on campus or at home.

#### **ii) Teacher Preparedness and Professional Development**

Effective use of AI in teaching requires more than simply using new tools; it demands proper understanding of AI concepts, instructional planning, and data-based teaching methods. Many English language teachers in India do not have formal training in these areas, which often results in shallow or ineffective use of AI. Without continuous professional development that builds both theoretical knowledge and practical skills, AI may remain a superficial technological feature rather than a meaningful teaching resource.

#### **iii) Ethical and Privacy Concerns**

AI systems rely on collecting and analyzing student data, which raises serious concerns about data privacy, consent, and security. Sensitive information handled by external platforms may be vulnerable to misuse or data breaches. Educational institutions must therefore develop

strong data protection policies that safeguard student information, ensure transparency, and address possible bias in AI algorithms that may affect learning recommendations.

In addition, AI tools developed using global or non-Indian data may not fully reflect local languages, cultural contexts, or communication styles, which raises concerns about cultural appropriateness and relevance.

#### **iv) Risk of Depersonalization**

While AI improves efficiency and scalability, it also carries the risk of reducing the human element in language learning. Language learning is not only a mental activity but also a social process that involves cultural understanding, personal interaction, and emotional support. Excessive dependence on automated feedback and machine interaction may weaken the role of human teachers, who provide essential guidance, motivation, and empathetic support that technology cannot replace.

#### **Recommendations for Balanced Integration**

To make effective use of Artificial Intelligence (AI) in teaching while reducing its limitations, higher education institutions in India should adopt the following approaches:

##### **i) Bridging the Digital Divide**

Universities and policymakers should give priority to improving digital infrastructure by ensuring stable internet access and availability of digital devices for all students. Cooperation among the government, private organizations, and educational institutions can help provide affordable and accessible digital facilities in remote and disadvantaged areas.

##### **ii) Professional Development and Capacity Building**

Educational institutions need to provide continuous professional development programmes that focus on AI awareness, AI-supported teaching methods, ethical use of data, and reflective classroom practices. Joint efforts involving educational technology companies, teacher training institutions, and research organizations can improve teachers' readiness to use AI effectively.

### iii) Ethical Frameworks and Data Governance

Institutions must establish clear rules related to data privacy, informed consent, transparency of algorithms, and protection of learners' rights. Ethical guidelines should ensure that AI tools respect cultural differences, safeguard personal information, and support fair and inclusive learning environments.

### iv) Pedagogical Alignment and Curriculum Redesign

AI technologies should be incorporated within a well-planned teaching framework that focuses on communication skills, critical thinking, and learner independence. Curriculum planners must ensure that technology supports teaching objectives rather than controlling or replacing them.

### v) Research and Continuous Evaluation

Continuous research on the educational impact of AI is necessary. Regular assessment of AI tools, student learning outcomes, and teachers' experiences will help identify best practices and support ongoing improvement.

### Conclusion

Artificial Intelligence offers strong potential to improve English language teaching in Indian higher education by enabling personalized learning paths, instant feedback, and extended practice opportunities beyond the traditional classroom. However, this potential is limited by challenges such as unequal access to technology, insufficient teacher preparation, ethical issues, and concerns about cultural relevance. AI should not be seen as a complete solution but as a supportive tool that strengthens human teaching.

Successful integration of AI requires careful planning, continuous teacher training, adequate infrastructure, ethical oversight, and ongoing research. When these factors are properly aligned with institutional goals and learner needs, AI can help transform English language teaching by moving beyond the blackboard and creating learner-centered, flexible,

and context-sensitive teaching practices suited to India's diverse higher education environment.

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