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# Reforming Language Labs in AI Labs: Transforming ELT, Innovations, and Implications

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**Abstract**

In this contemporary world, AI has taken over almost every field of human expertise, transforming academic processes, professional practices, and daily life. And, it must always be remembered that the difference between AI integration – where AI complements and enhances human-led instruction – and AI-centric models - which rely entirely on machine-driven processes. This paper focuses on integrating AI into language teaching and learning by establishing an AI Lab for English learning, thereby eliminating traditional Language Labs in the 21st century. These labs serve as a dynamic learning space where many opportunities for diverse levels of learners are created, and create an inclusive environment in education. English has been developed as a Global Lingua Franca due to its need in discourse in various contexts like digital transformation, inclusive education, and globalization. The growing need for the English language leads to the requirement for more innovative and accessible teaching tools in academic, professional, and intercultural contexts. Adding to that, the world is modernising in the most feasible and effective way in everything ranging from everyday chores to academic progression. This new initiative creates its relevance in this modern era, includes pedagogical advancements, technological modernisation, inclusivity and accessibility, and global competitiveness. By examining the shift from integration to AI-centric ELT infrastructure, this paper discusses the ongoing discourse on technological and AI intervention in pedagogical expertise.

**Keywords:** AI Labs, English, Pedagogy, ELT, Language acquisition.

**Introduction**

English language teaching has transformed over the past decades. From being static equipment, heavy language, and laboratories of the mid-20th century to an innovative, dynamic, technology-driven learning environment. The traditional way of language labs is considered the pinnacle of innovation, and it involves the use of audio-visual tools for listening, speaking, and pronunciation drills. This methodology was effective at that time, and it, however, offered limited adaptability. Along with that, it lacked real-time personalisation and was also restricted to some physical infrastructure.

The invention of artificial intelligence has provided new opportunities for reimagining the learning environment. As a way of adapting to modern inventions, AI-integrated language labs or AI Labs provide natural language processing, speech recognition, machine learning, and adaptive learning algorithms to create dynamic, interactive, personalised, and immersive learning experiences with real-life context, focusing on English as a global lingua franca. These AI-powered labs are not merely a supplementary tool but a transformative force that redefined the teaching of language. In the 21st century, Globalised and digitally connected context, integrating AI into ELT is no longer an option. It has become necessary.

**Literature Survey**

Nikaloas Avouris (2025) presented a mixed-methods Empirical evaluation of state-of-the-art AI conversational tutors in foreign language learning. This study assessed the functionality during conversation between the AI tutor and student through detailed chat transcripts and user experience metrics, which provided a lighter design and guidelines to highlight main concerns like data privacy-Critical for AI lab to selection and performance standards. (Avouris, 2025)

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AI labs must be an integration and not a dependency. Thus, investigating how instructors adapt to a powered ELT environment. A study through qualitative focus groups shows that "evolving facilitators" and "creative prompters" highlight their demand for an instructor with redefined responsibilities by AI. Therefore, balancing efficiency and human insight will lead to highly relevant situations for building AI labs to complement, rather than supplant, human expertise. During a comparison between AI-generated summaries and summaries by human teachers in EFL lessons, AI excels in content, coverage, and efficiency. However, it lacks the pedagogical new ones and contextual understanding required by the students. There for always, a human-in-the-loop approach is highly relevant for the construction of AI labs. (Almegren et al., 2025)

In a study conducted recently, the researchers reviewed how self-regulated language Learning Is facilitated by AI and how it explores tools like intelligent tutoring systems and machine translation. The findings of the research highlight AI's position as a facilitative tool that supports learning autonomy and offers a structure for Self-Regulated Language Learning. (Chang & Sung, 2024). Therefore, a regular engagement with AI tools influences academic adoption of the students, peer relationships, and emotional well-being. The findings revealed that guided AI use can increase learning, motivation, and confidence. Excessive dependency on these AI tools can also lead to social withdrawal and reduced collaborative skills. (Gomathi, 2022)

**Language Labs VS. AI labs in ELT**

| Aspect | Language Labs | AI-Integrated Language Labs |
|---|---|---|
| **Core Technology** | Audio playback, recording devices, multimedia computers | Artificial Intelligence, NLP, Machine Learning, Speech Recognition, Generative AI |
| **Primary Purpose** | Listening, speaking practice, and pronunciation drills | Adaptive, personalized learning across all language skills with real-time feedback |
| **Feedback Mechanism** | Teacher-led correction and peer review | Automated, instant, and data-driven feedback |
| **Content Delivery** | Pre-recorded lessons, fixed exercises | Dynamic, AI-generated, and context-based exercises |
| **Learning Approach** | One-size-fits-all; uniform for all students | Personalized paths based on learner proficiency and progress |
| **Teacher Role** | Direct instructor, facilitator of lab sessions | Mentor/guide leveraging AI insights to address individual needs |
| **Assessment** | Manual evaluation of speaking and writing | AI-based automated assessment with analytics and progress tracking |
| **Interaction Level** | Mostly passive listening and repetition | Interactive simulations, chatbots, gamified learning, VR/AR integration |
| **Scalability** | Limited to lab sessions and institutional schedules | Accessible anytime, anywhere via cloud/mobile platforms |
| **Skill Focus** | Primarily speaking and listening. | Speaking, listening, reading, writing, grammar, vocabulary, and cultural context |
| **Data Use** | Minimal tracking of learner progress | Continuous data collection and analysis for targeted improvement |
| **Cost Over Time** | High initial setup, moderate maintenance | Variable – can be subscription-based, scalable across devices |
| **Adaptability** | Slow to update materials | Real-time content updates and AI adaptation to language trends |
| **Inclusivity** | Limited accessibility for learners with disabilities | Can include AI-driven accessibility tools (speech-to-text, text-to-speech, adaptive UI) |

**Pedagogical advantages of AI Labs**

Significant pedagogical frameworks, transforming beyond the limitations of traditional language laboratories and uniform instructional model can be seen by the integration of Artificial Intelligence (AI) into English Language Teaching (ELT) that redefines the AI-powered English labs function not merely as supplementary tools but as transformative learning spaces that reshape both teaching methodologies and learner engagement in the 21st century.

**1. AI-Enabled Environments**

Traditional language labs, which were an important innovation of the language-learning environment, consisted only of fixed drills, audiovisual recordings, and restricted physical spaces. While effective at that time, they offered limited adaptability and personalization. This static model is replaced by AI-integrated labs with dynamic, interactive platforms capable of real-time adaptation and catering to the learner's needs, thereby fostering authenticity and relevance to tasks in language learning.

**2. Personalization and Adaptive Learning**

Learner data that can be processed will generate numerous large volumes of data that enact personalised learning pathways. By gradual and comprehensive evaluation, the integration of AI will be able to trace its linguistic proficiency gaps and strengths and compose lessons to cover those gaps. Greater enhancements in retention and language competence are possible through the adaptability technique, which makes learning flexible and individualised to the pace, style, and level of expertise. This lesson's repetitive assessment duties and gives educators a chance to divert their concentration to upper-level pedagogical strategies.

**3. Redefining the role of a teacher**

The teacher transforms to be a facilitator, mentor, and designer of learning experiences in an AI-enabled learning ecosystem. The role of the teacher is extended to encourage critical thinking, intercultural competence, and collaborative skills because the AI takes over repetitive tasks that can be time-intensive (such as grading pronunciation or vocabulary reinforcement). The combination of human skills within the AI-produced insights enhances the effectiveness of instructions and learning.

**4. Inclusivity and Accessibility**

An inclusive learning environment is directly assisted by pedagogy-driven AI. The multimodality of delivered content (interactive simulations, speech-to-text, real-time translation, and more) AI helps address diverse learning preferences, even those of disabled and disadvantaged students. This accords with the educational values of global accessibility, equity, and universal participation in learning.

**5. Encouraging Learner Autonomy**

Language learning systems with the help of artificial intelligence can help learners take greater responsibility for their language development. The functionalities of instant feedback, self-directed modules, and continuous access to resources make autonomous learning possible. This not only enhances the confidence level of the learner, but it also builds the metacognitive skills that are necessary in being able to engage in the distinction of lifelong learning and responsiveness to changing socio-economic environments.

**6. Getting Learners Ready for Global Communication**

Given that English is used as a lingua franca in the world, the AI-powered pedagogy will be able to offer real and globally diverse language experiences. Simulations of real-life interaction, exposure to the proliferation of different dialects and accents, and cross-cultural interactions prepare learners to perform in a diverse, global environment. This not only brings language development but also cultural understanding, both of which are crucial in the globalised digital economy.

The pedagogical implications of AI in ELT envisage a state of change of the paradigm of teaching that has been rigid and one-size-fits-all to inclusive, adaptive, and global learning. The effective implementation of AI in ELT is a step forward towards not only the further improvement of current practice but also an

opportunity to empower educators and learners to be more competent, confident, and creative when addressing the challenges of the 21st century based on their communicative and cultural background.

**AI Tools in AI Labs**

1. **Speech Recognition & Pronunciation Tools**
    - **Examples:** ELSA Speak, SpeechAce, Google Cloud Speech-to-Text
    - **Function:** Helps learners practice pronunciation, intonation, and fluency with instant AI feedback.
2. **AI Writing Assistants**
    - **Examples:** Grammarly, ProWritingAid, Quillbot
    - **Function:** Provides grammar checks, vocabulary enhancement, and style suggestions.
3. **Conversational AI Tutors**
    - **Examples:** ChatGPT, Duolingo Max, Microsoft Copilot
    - **Function:** Simulates real-life conversations, role plays, and comprehension checks.
4. **Automated Assessment Systems**
    - **Examples:** Pearson AI Scorer, ETS SpeechRater
    - **Function:** Grades speaking and writing tasks instantly with detailed performance analytics.
5. **Adaptive Learning Platforms**
    - **Examples:** Lingvist, Rosetta Stone AI, EnglishCentral
    - **Function:** Adjusts lesson difficulty based on learner progress and personalizes practice.
6. **Real-Time Translation & Interpretation Tools**
    - **Examples:** DeepL, Google Translate AI, Microsoft Translator
    - **Function:** Offers instant translation for multilingual classrooms and cross-cultural activities.
7. **Gamified AI Learning Apps**
    - **Examples:** Kahoot! AI, Quizlet AI, Memrise AI
    - **Function:** Turns vocabulary, grammar, and comprehension practice into interactive games.
8. **AI-Powered Listening Labs**
    - **Examples:** Yabla, BBC Learning English AI tools
    - **Function:** Allows learners to engage with varied accents and real-world listening materials.
9. **Emotion & Engagement Analysis Tools**
    - **Examples:** Affectiva, EdPuzzle AI analytics
    - **Function:** Tracks learner engagement, motivation, and emotional responses during lessons.
10. **Content Generation Tools**
    - **Examples:** ChatGPT, Writesonic, Jasper AI
    - **Function:** Generates reading passages, comprehension questions, or role-play scripts instantly.

**Conclusion**

In conclusion, AI in English language learning is a paradigm shift towards holding a rigid, traditional language learning lab to a versatile learning environment. The AI-enabled labs are fast, very personal, and inclusive, letting teachers and students achieve higher competency and engagement levels. Adopting AI can enable the fulfillment of the needs of

learners, their autonomy, and make them ready to interact with the world, which is not only about physical proximity anymore, and is constantly connected through technology. The use of AI in ELT has now become an imperative to make language instruction in the twenty-first century equitable, relevant, and future-ready.

**References**

[1]. Avouris, N. (2025, August 6). Evaluating state-of-the-art conversational AI tutors for foreign language learning. *arXiv*. https://arxiv.org/abs/2508.05156

[2]. Exploring the impact of the FLIT-based blended learning model on business English performance. (2025). *Language Testing in Asia, 15*(2). https://languagetestingasia.springeropen.com/articles/10.1186/s40468-025-00376-7

[3]. Almegren, A., et al. (2025). Instructors' roles in AI-powered English language teaching environments: A qualitative study. *Frontiers in Education, 10*. https://pubmed.ncbi.nlm.nih.gov/40440266/

[4]. Koraishi, Y., & Karatepe, C. (2025). AI-generated summaries versus human summaries: A comparison in remote EFL lessons. *Technology in Language Teaching & Learning, 7*(1). https://www.castledown.com/journals/tltl/article/view/tltl.v7n1.1796

[5]. AI-assisted development of English language assessments: A case study from Van Lang University. (2024). *Science, Justice, and Language Studies, 6*(2). https://www.emerald.com/insight/content/doi/10.1108/sjls-06-2024-0030/full/html

[6]. Katinskaia, A. (2025, May 3). Artificial intelligence in computer-assisted language learning: A review. *arXiv*. https://arxiv.org/abs/2505.02032

[7]. Gomathi, S. (2022). *A study of the use of AI products by secondary school students & school adjustment* (PhD thesis). Shodhganga.