

**THE SYNERGISTIC IMPACT OF AI ON ENGLISH LANGUAGE LEARNING: A
COMPREHENSIVE APPROACH TO DEVELOPING LISTENING AND
SPEAKING: UNDERSTANDING AND THINKING**

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1. Introduction

AI has generated excitement in the education sector, but its influence on how students learn, teachers teach, and the role of teachers remains a topic of discussion. Every English language teacher's mind is struggling to know

- How will AI affect student English learning and language skill development?
- Will AI replace teachers?
- Should teachers guide students in the use of AI for academic purposes?

The new education system that supports technologies is known as Education 4.0. Education 4.0, which is sustainable, is a self-based education that adopts AI for learning (Dhivya, D. Sri, et al, 2023). “*Education 4.0 is a contemporary educational approach that utilizes technology to enhance learning.*” (What Is Education 4.0 | IGI Global, n.d.). Moreover, on 30th October, 2022, it was mentioned by Abhishek Gupta in Voices, India, TOI, “*Educators are abuzz with Education 4.0 due to the fourth industrial revolution sweeping all sectors, including the education sector.*”. (Gupta, 2022). According to researcher, Education 4.0, a tech-driven approach, fosters sustainable, self-paced learning with AI.

1.1. Artificial Intelligence and its applications in English Language Learning

Before generative AI tools like ChatGPT, Cloud AI, Gemini (earlier it was known as BARD) adaptive learning pathways were successfully developed in ESL and EFL Classroom. Now, various generative AI tools offer even more potential for language practice. However, realizing this potential requires motivation and skills from learners, teachers, and others. Being an advanced and attentive teacher, it's important to address the challenges and risks, and consider the perspectives of those who will use these technologies in their classroom. As Lee rightly mentioned in the research paper that “*Interactive platforms, such as language learning apps that employ AI algorithms, provide learners with immediate feedback and adaptive learning path.*” (Lee, 2020). By leveraging AI's capabilities, educators can create

more personalized, engaging, and effective learning experiences that cater to the diverse needs of learners. Nowadays, in the field of English language teaching and learning (ELT/L), due to advancement of technology there are now a wide range of resources available for teachers on classroom-based use of AI tools (such as blogs, webinars, ‘how-to’ guides), there is a need for a deeper engagement with the opportunities, issues and challenges AI presents.

1.2. *Statement of the problem*

In today’s interconnected and globalized world, the importance of English language teaching and learning have become the one of the tops most necessities. There are many traditional English language teaching methods, like, Grammar Translation, Direct Method, Communicative Language Teaching etc have undoubtedly played a role, but the introduction of Artificial Intelligence (AI) offers quick, student friendly and for English language acquisition. This research investigates the synergistic impact of AI on developing listening and speaking skills among undergraduate students at Kadi Sarva Vishwavidyalaya (Gandhinagar) specifically focusing on BCA and B. Com programs.

The problem lies in understanding the effectiveness of AI-powered tools and techniques in fostering listening and speaking skills within a specific academic context. While AI offers features interactive and adaptive learning which has created significant impact on developing learners’ language learning skills within the existing curriculum at Kadi Sarva Vishwavidyalaya. Furthermore, the research delves into the potential challenges associated with implementing AI in language learning at the university level. These challenges may include

- **Integration with existing curriculum:** How can AI be seamlessly integrated into the current curriculum for BCA and B.Com programs without disrupting the existing learning flow?
- **Pedagogical considerations:** How can educators leverage AI tools to create a holistic learning experience that fosters not just technical skills, but also critical thinking and cultural understanding? (*The Importance of Learning English in Today’s Globalized World*, n.d.)

This research aims to shed light on these concerns by employing a **case study approach** within the qualitative research design. It will explore the experiences of students and educators at Kadi Sarva Vishwavidyalaya to gain a comprehensive understanding of the **synergistic impact** of AI on developing listening and speaking skills.

1.3. *Limitations of the study*

- **Limited Focus:** The research focuses on only two language skills, listening and speaking. This limits the overall picture of AI's impact on English language learning, which encompasses other crucial areas like reading and writing.
- **Single Institution:** The case study will be conducted at Kadi Sarva Vishwavidyalaya (Gandhinagar) with a focus on BCA and B.Com programs. This limits the generalizability of the findings to other universities, programs, or student demographics. The results may not be applicable to institutions with different learning environments, resources, or student populations.
- **Sample Size:** Case studies typically involve a small sample size, meaning the findings may not represent the experiences of all students and educators at Kadi Sarva Vishwavidyalaya.
- **Evolving Technology:** AI is a rapidly developing field. The tools and techniques available today might change significantly within the timeframe of current research. (Kurnia, 2023)

2. *Objectives*

1. To assess the impact of AI-powered tools and suggest effective teaching methodologies to enhance student performance in listening and speaking.
2. To investigate the effectiveness of various Artificial Intelligence applications in English language teaching and learning at the undergraduate level, with a focus on tailoring listening instruction to individual student needs.
3. To explore the role of AI-based speech recognition and analysis tools in improving pronunciation and fluency.
4. To explore the challenges associated with integrating AI into the existing curriculum for English language learning at the university level.
5. To gain a comprehensive understanding of the synergistic impact of AI on developing listening and speaking skills through a qualitative case study approach.

3. *Literature Review*

In some research papers related to AI tools, such as intelligent tutoring systems (ITS), to provide personalized instruction and feedback to language learners (e.g., Brusilovsky, 1996). Apart from this, research done by Lee and other researchers have cited into the potential of AI to address specific language skills, such as reading comprehension and writing (e.g., Lee et al., 2019). In one of the popular journals named Australian Journal of Technology,

researchers Yang, Hongzhi and et al mentioned in their empirical research design-based research paper that “Teachers’ intervention and configuration of AI-supported language learning in the pedagogical design plays an important role in the effectiveness of learning” (Yang & Huang, 2022). Apart from this in the same research paper they focused on the AI-powered listening exercises and speech recognition software can provide learners with opportunities to practice listening comprehension and receive immediate feedback on their pronunciation. (Yang & Huang, 2022). In addition, the present research focus on speaking skills and synergetic approach with AI in English language teaching classroom, Kim and Lee rightly included in their research that AI-powered conversational agents and speech-to-text technology can facilitate speaking practice and provide feedback on fluency, pronunciation, and grammar. (Kim & Lee, 2023). In corporation Digital tools, Web 2.0 tools or AI in teaching learning means “using digital tools as “a catalyst” for pedagogical “change” (Kukulka-Hulme, 2010, p. 181). The main objective to change various teaching pedagogy is to make classroom teaching learning process from learners centric and ‘Learner- generated context’ (Kim & Lee, 2023). While there are scholarly research papers exploring AI's impact on English language learning, many focus on reading, writing, or other educational aspects, or on gamification and English language teaching.

3.1. Distinctiveness of the Present Study

The studies already conducted have investigated on significant objectives, yet none of the study has touched on various aspects, which will be covered in the study:

1. The present research paper focuses more on implementation and effectiveness of specific AI-powered tools within the existing English language learning curriculum at Kadi Sarva Vishwavidhyala for BCA and B.Com students.
2. The researcher aims to study the integration of AI in listening and speaking skills. By focusing on these two skills, which are often undervalued in the given exam structure and courses at the chosen university, the research narrows its scope and provides a more in-depth understanding compared to broader studies.
3. Another unique aspect of this research paper is its focus on a specific student population: BCA and B.Com students. This choice allows for a deeper exploration of how different learning styles, motivations, and technological comfort levels can influence the impact of AI integration compared to studies targeting a broader university student population.

4. *Methodology*

4.1. *Research design*

In the present study the researcher's interest in exploring the synergetic approach of Artificial Intelligence (AI) development in English language teaching and learning, is significant area study. To collect the relevant and accurate data related to this topic, the researcher utilized the library research method. This method involves gathering books, journals, articles, internet sites related the topic of study. As Zed explains in the research paper titled on *Metode penelitian kepustakaan* "library research was research uses library sources to get the data." (Zed, 2004).

The primary objective to utilize this method to collect comprehensive data related to the topic. Apart from this, to gathering information from various sources, the researcher synthesized these ideas to create a comprehensive conclusion. The researcher extensively reviewed books and journals as references to support their findings. By utilizing this method, the researcher was able to gain a deeper understanding of how AI can be used to elevate English language learning at various levels.

As Cresswell defined qualitative research "qualitative research is an inquiry process of understanding based on distinct methodological traditions of inquiry that explore a social or human problem. The researcher builds a complex holistic picture, analyses words, reports detailed views of informants and conducts the study in a natural setting". (Cresswell,1998). The researcher selected a qualitative research design, which offers various data collection methods such as case studies, interviews, and focus groups. To gather accurate, relevant, and up-to-date data, the researcher chose case study method and in this the researcher has examined the implementation and outcomes of AI- integrated language learning programs in real-world settings, focusing on specific classrooms or individuals.

4.2. *Research questions*

1. In what ways do AI tools facilitate the development of spoken English skills (e.g., pronunciation practice, fluency development) among BCA and B.Com undergraduate students?
2. What are the perceived benefits and challenges of integrating AI tools from the perspective of both students and teachers?
3. What are the observed changes in student engagement, motivation, and self- directed learning after incorporating AI tools in the classroom setting?
4. How can AI tools be best implemented in BCA and B.Com English courses to improve listening, speaking, understanding, and critical thinking based on the case study findings?

4.3.Data collection method

Case Study

On

Utilizing AI in BCA and B.Com English Language Learning for Speaking and Listening Skills

Dr. Jinali Patel

Introduction

This case study explores the integration of Artificial Intelligence (AI) tools into English language learning for speaking and listening skills among BCA and B.Com students at Kadi Sarva Vishwavidhyala. It examines the impact of AI on student engagement, perceived learning outcomes, and the challenges encountered during implementation. Over 30 nations had developed AI strategies by 2021. These strategies detail how AI will affect policy areas, including education, and discuss the social and ethical implications of AI technology.

AI Tools and Student Engagement:

The researcher strategically introduced AI tools targeting speaking and listening development:

1. **Elsa Speak (Elsa Corporation):** This AI-powered app provides personalized feedback on pronunciation, fluency, intonation, and rhythm in spoken English (Wang et al., 2023)
2. **italki (italki Inc.):** This online platform connects learners with qualified English tutors for personalized speaking practice and conversation classes (Liu et al., 2021)
3. **Listen & Learn (British Council):** This interactive website offers listening activities with audio clips, vocabulary exercises, and quizzes to enhance listening comprehension skills (British Council, n.d.)
4. **Cambly (Cambly Inc.):** This online platform allows learners to connect with native English speakers for live conversation practice, improving fluency and listening comprehension (Chen et al., 2023)
5. **Youper (Youper Inc.):** This AI-powered language learning app uses speech recognition technology to provide real-time feedback on pronunciation and fluency in spoken English (Youper, n.d)
6. **Gama AI:** Used for creating engaging presentations.
7. **Humanize AI:** Helped tailor content to individual learning styles.
8. **Canva:** Facilitated visual design for resumes and posters.

9. **Slides AI:** Enabled the creation of dynamic presentations.
10. **Suno AI:** Offered functionalities for generating songs based on a given theme.
11. **Goblin Tools:** Magic ToDo – GoblinTools
12. **Alayna.us:** Alayna AI for Educators | Slides Generator | Teacher Copilot
13. **Coursable:** Coursable.IO
14. **Google Notebooks:** <https://notebooklm.google.com/notebook>
15. **Zerogpt:** AI Detector - Trusted AI Checker for ChatGPT, GPT4 & Gemini (zerogpt.com)

AI Tools for Audio Generation

Text-to-Speech Tools:

1. **levenLabs:** Known for its high-quality voice generation and ability to create unique voices.
2. **Murf:** Offers a wide range of voices and languages, making it suitable for various projects.
3. **Play.ht:** Provides a simple interface for generating audio clips from text input.

Music Generation Tools:

1. **Amper Music:** Generates original music tracks based on your preferences.
2. **Soundraw:** Creates custom music compositions for various purposes.
3. **Jukedeck:** Offers a wide range of music styles and moods.

AI-Powered Speech Analysis and Improvement Tools

Here are some popular AI tools that can analyze your speech and provide feedback:

Dedicated Speech Analysis Tools:

1. **Elsa Speak:** Offers personalized pronunciation training and feedback.
2. **Speexx:** Provides a comprehensive platform for language learning, including speech analysis and improvement.
3. **Yabla:** Combines video content with speech analysis tools to help learners improve their pronunciation and fluency.
4. **ELSA World:** Offers a variety of language courses with speech analysis and pronunciation training.

5. **Duolingo:** Incorporates speech recognition technology to assess pronunciation and provide feedback.
6. **Memrise:** Offers pronunciation exercises with real-time feedback.
7. **Rosetta Stone:** Uses speech recognition to evaluate learners' pronunciation and provide guidance.

AI Assistants and Virtual Tutors:

1. **Replika:** A virtual companion that can engage in conversations and provide feedback on your speech.
2. **AI Tutor:** Offers personalized language tutoring with speech analysis and correction.

These tools can help you identify and address pronunciation errors, improve fluency, and develop a natural-sounding accent.

Challenges and Considerations:

Several challenges were identified during implementation:

1. **Technical Issues:** Occasional internet connectivity problems and technical glitches with certain AI tools caused frustration and disrupted learning activities.
2. **Time Constraints:** Integrating AI tools effectively within limited class timeframes required careful planning and adjustments to lesson structures.
3. **Individualized Learning Needs:** While AI tools offer personalized feedback, catering to diverse learning styles and proficiency levels within a large classroom setting remained a challenge.

Questions

1. **What AI tools were used in this case study to improve speaking skills?**

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2. **What AI tools were used in this case study to improve listening skills?**

.....

	<p>3. How did the AI tools affect student engagement?</p> <p>A. I found the AI tools to be boring and unengaging.</p> <p>B. I found the AI tools to be helpful but did not significantly increase their engagement.</p> <p>C. I found the AI tools to be moderately engaging and helpful.</p> <p>D. I found the AI tools to be highly engaging and motivating</p> <p>4. What challenges were encountered during the implementation of AI tools?</p> <p>A. Technical issues (internet connectivity, glitches)</p> <p>B. Time constraints (integrating tools within class time)</p> <p>C. Catering to individual learning styles in large classrooms</p> <p>5. Which AI tool is primarily designed for personalized pronunciation training and feedback?</p> <p>A. Canva</p> <p>B. Elsa Speak</p> <p>C. Listen & Learn</p> <p>D. Gama AI</p> <p>6. Overall, how would you rate the ease of use of the AI tools mentioned in the case study for learning English?</p> <p>A. The tools were extremely difficult to use and required significant technical knowledge.</p> <p>B. The tools were somewhat difficult to use, but with practice, they became easier.</p> <p>C. The tools were fairly easy to use, but there were occasional technical issues.</p> <p>D. The tools were very easy to use and required minimal technical knowledge</p> <p>7. Based on your experience using AI tools for English language learning, which of the following best describes the impact AI has had on your learning?</p> <p>A. AI tools have been unhelpful and have not improved my English skills.</p> <p>B. AI tools have been helpful, but I prefer traditional learning methods.</p> <p>C. AI tools have been very helpful and have significantly improved my English skills.</p> <p>D. AI tools have been helpful, but I would like more personalized feedback.</p>								
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5. Discussion

Case study

The researcher employed a mixed-method approach for the case study, combining classroom observations with student survey data. This involved distributing questionnaires to five BCA and four B.Com classes with an average of 40 students each. While the large class sizes prevented collecting hard copies from everyone, the researcher

gathered responses from a representative sample. Classroom observations focused on how AI tools were integrated into typical curriculum topics to enhance listening and speaking skills, fostering learner-centeredness and enjoyment.

AI Tools and Student Engagement:

Observations revealed high student engagement with AI tools. The novelty of AI technology sparked interest and a desire for independent learning beyond traditional classroom methods. This enthusiasm led students to explore additional AI tools, fostering open discussions about responsible AI integration in their English language studies.

Challenges in Implementing AI in the classroom:

The researcher identified several challenges in implementing AI-based learning:

- **Developing Trust and Critical Thinking:** Initially, some students displayed a tendency to blindly accept AI-generated responses. The researcher addressed this by emphasizing proper guidance and critical analysis of AI outputs.
- **Time Constraints:** Integrating AI tools within limited class timeframes presented a challenge. The researcher explored ways to optimize integration within existing lesson plans.
- **Ethical Considerations:** Explaining ethical boundaries around AI use to Generation Z, known for their rapid learning and openness to technology, required careful consideration.

This case study demonstrates the potential of AI tools to enhance the English language learning experience for BCA and B.Com students. While challenges exist, they can be addressed through proper guidance, efficient time management, and clear discussions about ethical AI practices. The student-driven exploration of additional tools further highlights the potential for collaborative learning and discovery in this evolving educational landscape.

5.1. Thematic Analysis

Benefits of AI Tools: Increased student engagement, interest in independent learning, personalized content, and exploration of additional AI resources.

Challenges of AI Integration: Technical issues, time constraints, student reliance on AI outputs, and addressing ethical considerations for Gen Z learners.

Focus on Learner-Centeredness: The study emphasizes AI tools that cater to individual learning styles and foster enjoyment in the learning process.

5.2. Content Analysis

Types of AI Tools: The case study initially focused on dedicated speech analysis tools (text missing list) but later shifted towards broader AI applications like presentation creation (Gama AI, Slides AI) and content personalization (Humanize AI).

Research Methodology: A mixed-method approach was used, combining classroom observations with student survey data from a representative sample.

Limitations: The large class size prevented collecting data from all students.

5.3. Narrative Analysis

Story Arc: The case study presents a positive narrative of AI integration, highlighting increased student engagement and enthusiasm. Challenges are identified but framed as opportunities for further development.

Focus on Innovation: The novelty of AI technology sparked student interest and a desire for independent exploration beyond traditional methods.

5.4. Implications for theory and practice

AI's Potential in Language Learning: This study supports the idea that AI tools can enhance speaking and listening skills, fostering learner-centeredness and student engagement.

Need for Critical Thinking Skills: Integration of AI should emphasize critical thinking skills to avoid overreliance on AI-generated outputs.

Ethical Considerations: Ethical discussions about responsible AI use are crucial, especially with digitally savvy Gen Z learners.

5.5. Recommendations for future research

Long-Term Impact of AI: Investigate how AI tools affect students' speaking and listening skills over an extended period.

Optimizing AI Integration: Research strategies for effectively integrating AI tools within limited classroom timeframes while maintaining existing lesson plans.

AI for Different Learning Styles: Study the effectiveness of AI tools for students with diverse learning styles and proficiency levels.

Student Perceptions of AI Ethics: Conduct research to understand student perspectives on responsible AI use in education.

Collaboration and Discovery: Explore ways to promote student-driven exploration of additional AI tools, fostering collaborative learning and discovery.

6. Conclusion

This research has investigated the synergistic impact of Artificial Intelligence (AI) on developing listening and speaking skills among undergraduate students at Kadi Sarva Vishwavidyalaya, focusing on BCA and B.Com programs. The case study approach explored the implementation of AI tools within the existing curriculum and its impact on student learning.

1. AI tools can significantly enhance student engagement and foster a more learner-centered environment. The novelty of AI sparks student interest and a desire for independent exploration beyond traditional classroom methods.
2. Specific AI tools were found to be effective in improving listening and speaking skills. These include:
3. Speech analysis tools (e.g., Elsa Speak) for pronunciation practice and fluency development.
4. Presentation creation tools (e.g., Gama AI, Slides AI) for fostering active participation and visual learning.
5. Content personalization tools (e.g., Humanize AI) for catering to individual learning styles.

Reinforce the significance of the study

This research contributes to the growing importance of AI integration in language learning. It highlights the potential of AI tools to:

- Enhance student engagement and motivation.
- Personalize learning experiences.
- Improve specific language skills like speaking and listening.

The study also emphasizes the importance of critical thinking skills development alongside AI integration.

Recommendations

This research opens doors for further exploration of AI's role in English language learning. Here are some recommendations for future research:

1. Investigate the long-term impact of AI tools on students' speaking and listening skills.
2. Research strategies for optimizing AI integration within existing classroom timeframes.
3. Study the effectiveness of AI tools for students with diverse learning styles and proficiency levels.
4. Conduct research to understand student perspectives on responsible AI use in education.
5. Explore ways to promote student-driven exploration of additional AI tools, fostering

collaborative learning and discovery.

By addressing these areas, educators and researchers can continue to develop effective strategies for integrating AI into language learning, ultimately improving student outcomes.

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