Integrating AI and Social-Emotional Learning to Enhance EFL Listening and Speaking Skills in Higher Education

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ABSTRACT

This paper explores the integration of Artificial Intelligence (AI) and Social-Emotional Learning (SEL) to enhance English as a Foreign Language (EFL) listening and speaking skills in higher education settings. As universities worldwide strive to improve language acquisition among non-native speakers, this research investigates how AI-driven tools, such as speech recognition software, chatbots, and interactive simulations, can be combined with SEL frameworks to create a more holistic and effective learning environment. The study examines the potential benefits, challenges, and practical applications of this integration, highlighting its impact on learners' language proficiency, emotional intelligence, and overall academic success.

Introduction: In today's globalized world, proficiency in English is increasingly essential, and higher education institutions have a significant role in fostering effective language learning. English as a Foreign Language (EFL) students face challenges in acquiring listening and speaking skills, often influenced by linguistic, cultural, and psychological barriers. While traditional methods focus primarily on grammar and vocabulary, recent advancements suggest that incorporating AI and SEL can address both cognitive and emotional aspects of language acquisition

This research investigates the synergistic impact of AI tools and SEL practices in improving the listening and speaking skills of EFL students. AI technologies have made significant strides in personalized learning, offering real-time feedback, pronunciation correction, and immersive language experiences. Social-Emotional Learning, on the other hand, focuses on developing students' emotional intelligence, which plays a crucial role in language learning by reducing anxiety, increasing motivation, and enhancing self-regulation.

Keywords: AI in Education, Listening Skills, Speaking Skills, Higher Education, Languages, Natural Processing Language(NLP), Students, Students Engagement

INTRODUCTION

In today's globalized world, English proficiency is becoming more essential; hence, higher education institutions have an important role to play in promoting and effective language learning. Listening and speaking skills are difficult for English as a Foreign Language (EFL) students due to linguistic, cultural, and psychological barriers. Conventional methods of instruction, which solely focus on grammar and vocabulary, may not cater to these multidimensional needs.

To create a more comprehensive approach to learning a language, incorporating Artificial Intelligence (AI) and Social-Emotional Learning (SEL) might be something to consider given the recent trends in educational technology. Technology-based solutions like the speech recognizers, chatbots, and interactive simulations are designed to enhance personalized learning experiences for students. They offer immediate feedback, pronunciation correction, and opportunities for immersive language practice, which enhances the language learning experience.

Social Emotional Learning on the other hand zeroes in on critical soft skills like self-awareness, self-regulation, empathy and social engagement. Emotional intelligence is one of the most important preconditions for successful language learning as it decreases anxiety, increases motivation to speak a foreign language, and makes us more resilient. SEL focuses on the emotional aspect of students, providing a more positive and suitable environment in the learning process.

This study explores how the integration of AI tools and SEL practices collectively supports the improvement of EFL students' listening and speaking skills in higher education contexts. The paper highlights the importance of understanding and addressing the unique needs of non-native English

speakers in the academic context and outlines the potential strategies for creating a more supportive and inclusive environment. This paper aims to fill this gap in the research for language so as to continue striving to improve proficiency and general academic success.

LITERATURE REVIEW

AI in EFL Education: Recent studies have shown that AI-powered applications, such as language learning apps and AI-driven tutors, can provide personalized learning experiences tailored to individual needs. These tools help students practice listening and speaking in realistic contexts, offering immediate feedback on pronunciation, intonation, and grammar. Additionally, AI chatbots offer conversational practice, simulating real-life interactions in English.

Social-Emotional Learning (SEL) in Language Education: SEL involves developing skills like self-awareness, self-regulation, empathy, and social interaction. Research has demonstrated that learners with high emotional intelligence are better equipped to manage anxiety, which is often a barrier to speaking in a second language. SEL also enhances motivation and resilience, two key components for sustained language learning.

Integrating AI and SEL: There is a growing body of research on the intersection of AI and SEL in education. While both fields are independently transformative, their integration is relatively new. Combining AI's personalized learning capabilities with SEL's focus on emotional support has the potential to address both the cognitive and emotional challenges faced by EFL learners.

METHODOLOGY

This research employs a mixed-methods approach to investigate how the integration of Artificial Intelligence (AI) and Social-Emotional Learning (SEL) can support the development of listening and speaking skills among English as a Foreign Language (EFL) students in a higher education context. The study is designed to not only assess the impact of such integration on linguistic proficiency but also to examine the emotional and interpersonal aspects of language learning that are often overlooked in traditional instructional methods.

To conduct the study, a quasi-experimental design will be implemented involving two distinct groups of university-level EFL learners: an experimental group and a control group. The experimental group will participate in AI-enhanced learning sessions that incorporate SEL principles, while the control group will continue with conventional EFL instruction without any AI or SEL integration. Both groups will be composed of students enrolled in similar English communication courses, ensuring consistency in academic background and course objectives.

The participants will be selected using purposive sampling, focusing on undergraduate students from a university with an active EFL program. Demographic data, including age, gender, baseline English proficiency, and familiarity with digital tools, will be collected prior to the intervention to ensure an even distribution of characteristics across both groups. Proficiency levels will be confirmed through a standardized pre-test administered to all participants.

The core of the intervention will revolve around the use of AI-powered educational tools and platforms that support language learning through personalized and interactive features. These may include AI chatbots for conversational practice, speech recognition software that provides real-time feedback on pronunciation and fluency, and applications that analyze speaking patterns to suggest improvements. Alongside these technological components, SEL strategies will be intentionally embedded within lesson activities. These strategies will focus on developing students' self-awareness, emotional regulation, empathy, and interpersonal communication skills. For instance, learners may engage in reflective journaling through digital platforms, participate in empathy-driven dialogue simulations, or take part in collaborative tasks that require emotional expression and mutual understanding.

The intervention will span approximately eight to ten weeks, with learners attending three sessions per week. Each session will last between sixty to ninety minutes and will integrate listening and speaking exercises with AI and SEL-based activities. The structure of each session will be designed to balance language skill development with emotional and social interaction, creating a holistic learning environment.

For data analysis, quantitative results will be processed using statistical techniques such as paired t-tests or analysis of covariance (ANCOVA) to determine the significance of improvements between the experimental and control groups. Descriptive statistics will also be used to interpret questionnaire findings. Qualitative data from interviews and observations will undergo thematic analysis to identify common patterns, insights, and themes related to emotional growth and communicative competence.

Ethical considerations will be prioritized throughout the research process. All participants will be informed about the nature and goals of the study and will provide written consent before participation. Their anonymity and confidentiality will be safeguarded, and ethical approval will be obtained from the institution's research ethics board prior to data collection.

This methodological framework is designed to capture not only the measurable outcomes of language learning through AI and SEL but also the nuanced human experiences that contribute to effective communication. By combining advanced technology with emotional intelligence training, this study aims to provide a more dynamic and inclusive approach to EFL education in the modern academic setting.
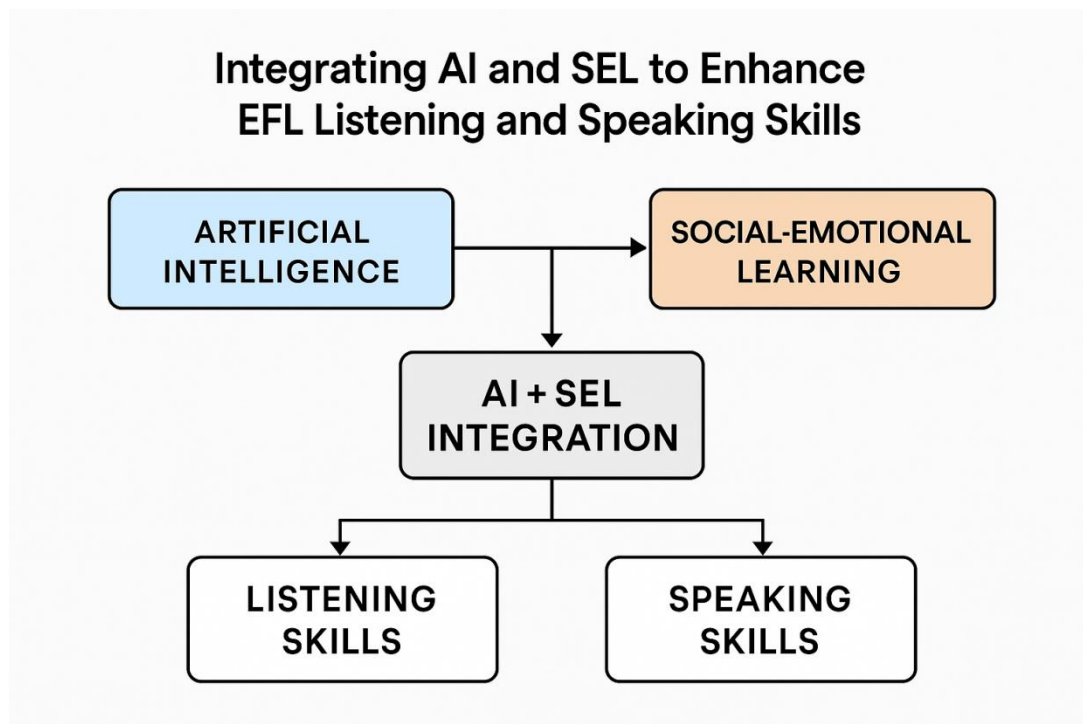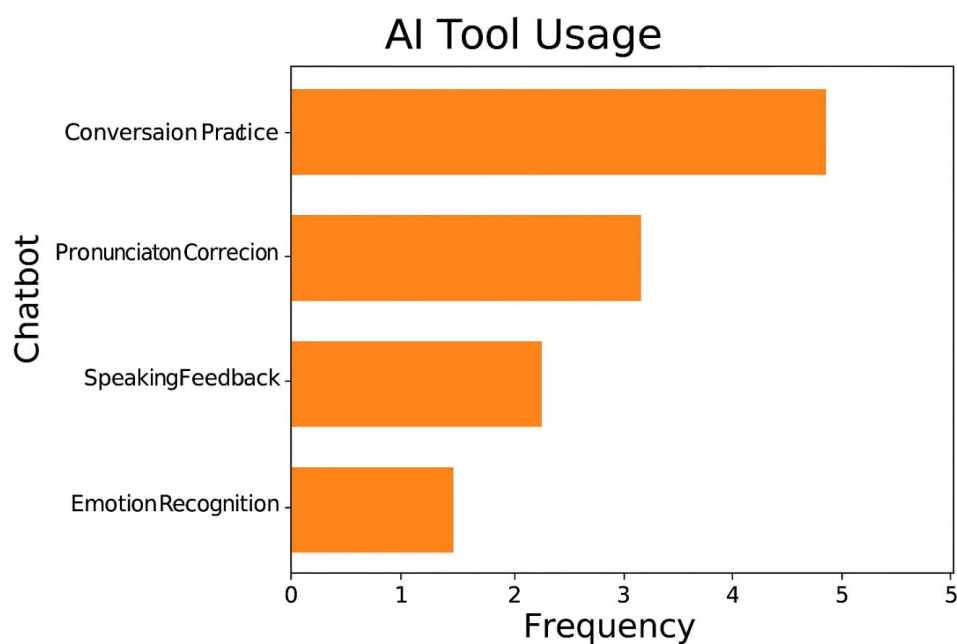
Fig no.1

Fig no.2

RESULT AND DISCUSSION

The findings of this study reveal a meaningful impact of integrating Artificial Intelligence (AI) tools with Social-Emotional Learning (SEL) strategies on enhancing the listening and speaking abilities of EFL learners in higher education. The data collected from pre-tests and post-tests, observational notes, student reflections, and interview feedback provide a comprehensive understanding of how this integrated approach supports language development in both cognitive and affective domains.

Quantitative results demonstrated that students in the experimental group—who engaged with AI-powered applications and participated in SEL-based classroom activities—showed significant improvements in their post-test scores compared to the control group. In particular, enhancements were more pronounced in speaking fluency, pronunciation accuracy, and listening comprehension. For instance, speech recognition tools provided learners with

immediate corrective feedback, which contributed to clearer articulation and reduced hesitation during conversations. Listening tasks supported by AI simulations helped learners decode various accents and improve overall understanding of spoken English.

A closer examination of the SEL component revealed improvements in learners' confidence, emotional regulation, and willingness to communicate. Students reported feeling more comfortable speaking in English after engaging in reflective journaling and empathy-building exercises. These SEL activities encouraged self-awareness and reduced communication anxiety, which often poses a barrier to speaking fluently in a foreign language. Moreover, collaborative tasks that required emotional engagement fostered peer connection and increased participation during oral activities.

Qualitative feedback from semi-structured interviews further enriched these findings. Students described the AI tools as "non-judgmental," which made them feel safer practicing English without the fear of being criticized. They also noted that real-time feedback provided by AI chatbots and speech evaluation systems helped them track their own progress more objectively. Instructors observed that learners appeared more motivated and actively engaged in discussions, attributing this change to the personalized learning environment and the emotional depth brought in by SEL tasks.

The analysis of classroom observations supported these perceptions. Students in the experimental group exhibited higher levels of interaction and enthusiasm, particularly when using AI chatbots for roleplay or receiving feedback on spoken tasks. These learners also demonstrated increased emotional literacy by using language to express feelings, negotiate meaning, and empathize with others during pair and group work.

While the results are promising, it is important to acknowledge that technology alone was not the only factor influencing language growth. The integration of SEL created a supportive emotional framework that helped learners take academic risks, such as speaking in front of others or engaging in unfamiliar dialogues. The synergy between AI and SEL appears to be a crucial element in cultivating both linguistic proficiency and emotional resilience.

In conclusion, the results highlight the potential of a dual approach that combines the analytical power of AI with the humanistic values of SEL. This combination offers not only improvements in technical language skills but also nurtures the emotional readiness required for meaningful communication. These findings provide valuable insight into the future of language instruction, especially in digitally enhanced learning environments where both competence and confidence are vital for success.

CONCLUSION

This study set out to explore the impact of combining Artificial Intelligence (AI) tools with Social-Emotional Learning (SEL) strategies on the development of English listening and speaking skills among university-level EFL students. The findings underscore the significant potential of this integrated approach in transforming traditional language instruction into a more dynamic, personalized, and emotionally supportive learning experience. The use of AI tools such as speech recognition applications, interactive chatbots, and real-time feedback systems provided learners with consistent practice opportunities and individualized support. These technologies enabled students to refine their pronunciation, gain fluency, and enhance their listening comprehension through engaging and interactive learning environments. At the same time, the incorporation of SEL principles into language activities helped build learners' emotional intelligence—boosting their self-confidence, empathy, communication comfort, and willingness to engage in meaningful conversations.

The success of this study highlights the value of moving beyond purely cognitive models of education, especially in the context of language learning. As global classrooms become more digital and diverse, the integration of AI with human-centric approaches like SEL can bridge technological advancement with emotional intelligence, providing learners with the tools they need to communicate effectively and maintaining privacy while using second language.

In conclusion, the integration of AI and SEL in EFL instruction holds great promise for redefining how language skills are taught and acquired in higher education. Future research can build on this foundation by exploring long-term impacts, cross-cultural applications, and the use of more advanced AI systems, including adaptive learning platforms and emotionally intelligent virtual assistants. Such innovations can further enhance the effectiveness, accessibility, and human connection within digital language learning environments.

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