

Exploring AI's Potential in Enhancing Intercultural Communication Skills for ESL Learners

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استكشاف إمكانات الذكاء الاصطناعي في تنمية مهارات الاتصال بين الثقافات لدى متعلمي الإنجليزية كلغة ثانية (ESL)

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Abstract:

Globalization has made intercultural communication a core requirement for learners of English as a Second Language (ESL). Mastery of grammar and vocabulary alone no longer guarantees effective participation in multilingual and multicultural contexts. Learners now need cultural awareness, empathy, and adaptability. At the same time, developments in Artificial Intelligence (AI) provide promising opportunities to meet these demands. Tools such as chatbots, adaptive learning systems, and Collaborative Online International Learning (COIL) environments can offer interactive and context-rich practice that extends beyond traditional classroom methods. This research adopts a descriptive-analytical, theoretical approach, relying on literature published between 2020 and 2025. The review indicates that AI has the potential to motivate learners, create simulated intercultural exchanges, and support particular skills including listening comprehension and pragmatic competence. Despite these benefits, the literature also points to concerns: excessive dependence on technology, the risk of reducing authentic human interaction, and difficulties in ensuring cultural authenticity in AI-generated dialogue. The analysis suggests that AI should be understood as a supportive aid rather than a replacement for real intercultural experience. Its theoretical value lies in positioning AI as a mediator between linguistic proficiency and intercultural competence. The research also highlights the importance of applying AI responsibly: educators should blend it with traditional methods, researchers should pursue longer-term empirical studies, and developers must design systems that respect cultural diversity and sensitivity.

Keywords: Artificial Intelligence, Intercultural Communication, ESL, Chatbots, Digital Learning.

المخلص:

جعلت العولمة الاتصال بين الثقافات مطلباً أساسياً لمتعلمي الإنجليزية كلغة ثانية (ESL). فلم يعد إتقان القواعد والمفردات وحده كافياً لضمان مشاركة فعالة في سياقات متعددة اللغات والثقافات؛ إذ يحتاج المتعلمون اليوم إلى الوعي الثقافي، والتعاطف، والقدرة على التكيف. وفي الوقت نفسه توفر تطورات الذكاء الاصطناعي (AI) فرصاً واعدة لتلبية هذه المتطلبات؛ فالأدوات مثل روبوتات المحادثة، وأنظمة التعلم التكيفي، وبيئات «التعلم التعاوني الدولي عبر الإنترنت» (COIL) تقدم ممارسات تفاعلية غنية بالسياق تتجاوز الأساليب الصفية التقليدية. تتبنى هذه الدراسة منهجاً نظرياً وصفيًا-تحليليًا يعتمد على الأدبيات المنشورة بين عامي 2020 و2025. وتُظهر المراجعة أنَّ الذكاء الاصطناعي قادر على تحفيز المتعلمين، وصناعة محاكاة لتبادلات بين ثقافية، ودعم مهارات بعينها مثل فهم المسموع والكفاءة التداولية. ومع ذلك، تشير

الأدبيات إلى شواغل موازية: الإفراط في الاعتماد على التكنولوجيا، واحتمال تقليص التفاعل الإنساني الأصلي، وصعوبات ضمان الأصالة الثقافية في الحوارات المؤلدة آلياً. وتشير التحليلات إلى وجوب النظر إلى الذكاء الاصطناعي بوصفه مُعيناً داعماً لا بديلاً للتجربة بين الثقافات في الواقع. وتتمثل قيمته النظرية في تموضعه وسيطاً بين الكفاءة اللغوية والكفاءة بين الثقافية. كما تبرز أهمية الاستخدام المسؤول: على المعلمين مزجه بالأساليب التقليدية، وعلى الباحثين إنجاز دراسات تجريبية أطول أمداً، وعلى المطوّرين تصميم أنظمة تحترم التنوع والحساسية الثقافية.

الكلمات المفتاحية: الذكاء الاصطناعي، الاتصال بين الثقافات، الإنجليزية كلغة ثانية، روبوتات المحادثة، التعلم الرقمي.

Introduction:

As the world becomes more interconnected, the ability to communicate effectively across cultures has become a vital skill for learners of English as a Second Language (ESL). Knowing grammar and vocabulary is no longer enough; learners must also be able to understand cultural contexts, interpret implied meanings, and adapt their communication to different social situations.

Far from being limited to grammar correction, AI tools now offer immersive and adaptive environments that can strengthen both linguistic development and intercultural competence (Klimova & Chen, 2024; Fountoulakis, 2024). Examples include intelligent chatbots, automated feedback systems, and collaborative platforms that give learners opportunities to engage in realistic conversations, practice with diverse communication styles, and receive immediate feedback. Sun (2025), for instance, shows how AI-supported Collaborative Online International Learning (COIL) programs help Chinese English majors combine language practice with cultural learning, highlighting the transformative role of AI in this area.

Still, the literature also warns against an uncritical embrace of these technologies. Concerns remain about cultural authenticity, excessive dependence on machines, and the limited integration of deep cultural dimensions into AI-mediated tools (Klimova & Chen, 2024). Baskara (2023) further points out that while tools such as ChatGPT can promote cross-cultural dialogue and academic mobility, they cannot fully capture the subtle, human aspects of intercultural encounters.

Given these opportunities and challenges, examining how AI can contribute to the development of intercultural communication skills among ESL learners is both urgent and necessary.

This study aims to investigate how AI can be effectively integrated into ESL education to foster not only language proficiency but also the intercultural awareness required for successful global engagement.

Research Problem:

Although AI technologies are increasingly used in ESL education, their effectiveness in developing intercultural communication skills, beyond linguistic proficiency, remains underexplored.

Main Research Question:

- How can Artificial Intelligence be utilized to enhance intercultural communication skills among ESL learners?

Sub-Questions:

1. What are the essential intercultural communication skills that ESL learners need in the context of globalized education and mobility?
2. In what ways do AI tools (e.g., chatbots, COIL platforms, adaptive learning systems) contribute to the development of intercultural communication competence?
3. What challenges and limitations affect the effectiveness of AI in fostering intercultural communication skills for ESL learners?

Research Objectives

1. To identify the core intercultural communication skills essential for ESL learners in a globalized context.
2. To analyze how Artificial Intelligence tools (e.g., chatbots, adaptive systems, and COIL platforms) can be integrated into ESL learning to foster intercultural competence.
3. To evaluate the effectiveness of AI in enhancing intercultural awareness, sensitivity, and communicative strategies among ESL learners.
4. To propose a framework for integrating AI into ESL education that balances linguistic proficiency and intercultural competence.

Significance of the Research:

This research is significant on multiple levels:

- **Academic Significance:** The study contributes to the growing body of literature on technology-enhanced language learning by shifting the focus from mere linguistic proficiency to intercultural communication skills. While prior studies (Klimova & Chen, 2024; Fountoulakis, 2024; Sun, 2025) highlight AI's potential, few explicitly analyze how AI can foster authentic intercultural competence.

- **Practical Significance:** For teachers and curriculum designers, the findings will provide evidence-based insights on incorporating AI tools into ESL programs. This can help develop strategies and resources that engage learners in real-life intercultural scenarios.

Literature Review:

The increasing role of Artificial Intelligence (AI) in second language education has become a major theme in recent scholarship, particularly in relation to intercultural communication competence (ICC). For learners of English as a Second Language (ESL), language proficiency alone is not enough; intercultural awareness and adaptability are now essential for meaningful participation in diverse contexts.

AI and Intercultural Communication Competence in ESL Education:

Klimova and Chen (2024) offer one of the most detailed reviews of AI's role in enhancing ICC at the university level. They argue that AI applications, such as chatbots and interactive platforms, expose students to situations that resemble authentic intercultural encounters. These tools not only provide corrective feedback but also help students adapt their strategies across different cultural contexts, fostering self-confidence and sociocultural sensitivity.

In a similar vein, Fountoulakis (2024) widens the discussion by assessing a broader range of AI interventions, including speech recognition systems and adaptive learning platforms. His findings suggest that such tools develop learners' ability to grasp cultural nuances and implicit meanings—an area that many ESL learners find challenging. By comparing these perspectives, both Klimova and Chen (2024) and Fountoulakis (2024) demonstrate that AI contributes not only to linguistic development but also to empathy, contextual awareness, and intercultural adaptability.

Adding to this body of work, Xia, Shin, and Kim (2024) present the Cross-cultural Intelligent Language Learning System (CILS). Their research shows how CILS combines AI-driven analytics with intercultural learning strategies, offering feedback that evaluates not just grammatical accuracy but also cultural appropriateness. This points to a growing sophistication in AI tools, which are moving beyond mechanics to address deeper cultural and pragmatic dimensions of communication.

AI Tools, Platforms, and Learner Motivation:

A second strand of the literature examines motivation and engagement. Masoudi (2025) highlights the role of adaptive platforms in sustaining learners' interest by providing personalized learning paths, instant feedback, and culturally contextualized content. His review indicates that motivation, when reinforced by AI-enhanced intercultural exposure, significantly increases learners' confidence in cross-cultural interactions.

Baskara (2023) provides a more focused analysis of ChatGPT-assisted learning. He demonstrates how generative AI can simulate conversations with speakers from diverse backgrounds, exposing students to varying politeness strategies and discourse norms. These interactions, he argues, prepare learners for academic mobility and global communication.

At the same time, Mohamed (2024) draws attention to faculty perspectives on the use of chatbots in EFL classrooms. While many teachers acknowledge their value for participation and immediate feedback, concerns remain about overreliance on technology and the risk of losing authentic peer-to-peer interaction. His findings suggest that AI must be carefully balanced with traditional pedagogical practices.

AI and the Development of Specific ESL Skills:

Beyond motivation and intercultural awareness, several studies explore how AI supports skill-specific development. Sahito, Panwar, and Ramzan (2025) focus on listening comprehension, showing that AI platforms exposing learners to varied accents and speech patterns improve their ability to decode meaning in intercultural contexts. They argue that listening, often seen as passive, is in fact central to ICC because it involves interpreting idiomatic expressions, cultural references, and pragmatic cues.

Wang et al. (2023) expand the scope by looking at international students in higher education. Their research indicates that AI not only supports language acquisition but also aids cultural adjustment by providing adaptive resources and personalized orientation. Taken together, these findings show that AI can bridge linguistic development and cultural integration, making it a valuable resource for ESL learners studying abroad.

Critical Perspectives, Challenges, and Research Gaps:

Despite these positive findings, the literature also points to limitations. Mohamed (2024) and Zhai (2024) both warn that overdependence on AI may reduce opportunities for genuine, spontaneous interaction. Similarly, Klimova and Chen (2024) caution that while AI can simulate intercultural dialogues, it cannot fully capture the unpredictability of real-life encounters.

Another concern is cultural authenticity. As Fountoulakis (2024) and Xia et al. (2024) note, AI systems risk reinforcing stereotypes if they are trained on biased data. Ethical issues of representation,

inclusivity, and fairness therefore remain at the forefront of current debates. Access is also uneven, as learners in under-resourced contexts may lack the digital literacy or infrastructure required to benefit fully from these technologies.

Overall, the reviewed studies converge on the idea that AI has clear potential to enhance intercultural communication skills, but its effectiveness depends on how it is integrated into pedagogical practice. Most scholars call for further longitudinal and applied research, since much of the existing work is short-term or conceptual.

Additionally, while much of the literature emphasizes the potential of AI tools, fewer studies provide empirical evidence on how these tools are integrated into broader pedagogical frameworks. Future research should therefore investigate how AI can be systematically embedded within intercultural curricula to maximize its benefits while mitigating risks.

Conceptual / Theoretical Framework:

This study investigates the role of Artificial Intelligence (AI) in strengthening intercultural communication skills among learners of English as a Second Language (ESL). To ground the analysis, it is necessary to clarify the main concepts, AI, intercultural communication competence, ESL, chatbots, and Collaborative Online International Learning (COIL), and then explain how these elements interact in the proposed framework.

Artificial Intelligence (AI):

Artificial Intelligence can be defined as computer-based systems designed to replicate aspects of human intelligence such as problem-solving, adaptation, and interactive communication (Zhai, 2024). Within ESL education, AI appears in multiple forms: intelligent tutoring systems, adaptive learning platforms, conversational chatbots, and generative models. These applications provide learners with immediate feedback, authentic intercultural simulations, and interactive opportunities to strengthen both language accuracy and cultural awareness (Dai, Suzuki, & Chen, 2024; Fountoulakis, 2024).

Intercultural Communication Competence (ICC):

refers to the capacity to interact appropriately and effectively with individuals from different cultural backgrounds. It combines three dimensions: knowledge of cultural norms and practices, attitudes of openness and empathy, and the practical skills required to adjust communication across contexts (Klimova & Chen, 2024). In the ESL classroom, ICC is equally as important as linguistic proficiency, since learners must be able to negotiate meaning and build understanding across cultural boundaries (Ma, 2025).

English as a Second Language (ESL):

The term ESL refers to the teaching and learning of English in environments where it is not the dominant language. Traditional ESL instruction has emphasized grammar and vocabulary, but modern approaches highlight the need for functional communication in multicultural and digital contexts. AI technologies extend these approaches by incorporating cultural exposure, global networking, and interactive practice that foster readiness for intercultural communication (Wang et al., 2023).

Chatbots and Generative AI:

Chatbots are one of the most visible applications of AI in language education. They can simulate interactions with speakers from different cultural backgrounds, introducing learners to varying norms of politeness, discourse patterns, and pragmatic strategies (Baskara, 2023; Dai et al., 2024). Generative AI, such as ChatGPT, goes further by allowing learners to rehearse authentic scenarios and receive tailored, context-sensitive feedback (Mohamed, 2024). These tools not only assist with language accuracy but also cultivate adaptability in intercultural exchanges.

Collaborative Online International Learning (COIL):

COIL involves structured virtual exchanges where students from different countries engage in collaborative projects. When supported by AI technologies, COIL platforms become spaces where ESL learners can practice both linguistic and intercultural skills. They encourage dialogue across cultural boundaries, facilitate global teamwork, and integrate AI feedback mechanisms to ensure meaningful engagement (Sun, 2025).

Relationship Between Variables:

The interaction of these concepts can be summarized as follows:

- **AI tools** (chatbots, adaptive platforms, COIL systems) provide structured opportunities for intercultural communication.
- **Exposure through AI** fosters intercultural competence by developing attitudes, knowledge, and skills relevant to global contexts.
- **Simultaneously**, AI enhances linguistic proficiency, equipping learners to express themselves accurately while navigating cultural differences.

In this way, AI functions as a **mediating mechanism**: it bridges the gap between linguistic proficiency and intercultural competence, enabling ESL learners to participate more confidently and effectively in an increasingly globalized academic and professional environment.

Methodology:

Research Type:

In this study, a **descriptive-analytical and theoretical design** was adopted. Rather than collecting new data through surveys or experiments, the emphasis is placed on reviewing, synthesizing, and critically interpreting the body of scholarship related to Artificial Intelligence (AI) and its role in supporting intercultural communication skills among ESL learners. As Creswell and Creswell (2018) point out, such an approach is particularly useful when the goal is to understand complex educational phenomena by examining existing conceptual and theoretical contributions.

Data Sources:

The analysis draws entirely on **secondary sources**, with a focus on peer-reviewed journal articles, academic books, and conference proceedings published between 2020 and 2025. Priority was given to recent research that directly addresses AI in second language education, intercultural communication competence (ICC), and digital teaching models such as COIL and AI-based chatbots. At the same time, classic works, such as Byram's (1997) framework of intercultural competence and Dervin's (2016) contributions, were consulted to provide theoretical grounding and continuity with earlier scholarship.

Analysis Method:

The literature was examined using **critical and comparative analysis**. Each study was assessed in terms of its contributions, limitations, and relevance to the topic. From there, the findings were compared across sources to identify recurring patterns, tensions, and gaps. Special attention was given to how different AI applications, ranging from chatbots and adaptive platforms to collaborative online environments, have been conceptualized in connection with ESL learning and intercultural development. This comparative process makes it possible to move beyond isolated case studies and instead build a more integrated understanding of AI's potential in this field.

Scope and Limitations:

The scope of the research is deliberately confined to **theoretical and conceptual studies**. While empirical findings from recent projects were incorporated where appropriate, no original data were collected. Consequently, the study does not attempt to measure statistical effectiveness or learner outcomes. Instead, its value lies in offering conceptual insights and a theoretical framework that may guide future empirical research, particularly studies that employ longitudinal or cross-cultural designs.

Discussion:

The findings from the reviewed literature align closely with the study's objectives. First, regarding the identification of **core intercultural communication skills**, the evidence consistently points to adaptability, cultural empathy, and pragmatic awareness as essential for ESL learners (Klimova & Chen, 2024; Byram, 1997). These skills move beyond grammar and vocabulary, reinforcing the argument that intercultural competence is inseparable from effective global communication.

Second, in relation to **the role of AI tools**, the studies demonstrate that applications such as chatbots, adaptive learning systems, and COIL platforms can provide authentic, simulated intercultural exchanges. Learners benefit by encountering diverse communication styles, building confidence, and developing greater motivation to engage in intercultural contexts (Fountoulakis, 2024; Sun, 2025; Masoudi, 2025). Collectively, these findings highlight AI's capacity to serve as a mediator between linguistic development and intercultural awareness.

At the same time, the literature reveals **important challenges**. Scholars such as Mohamed (2024) and Zhai (2024) caution that heavy reliance on AI may reduce opportunities for genuine human interaction, where unpredictability and nuance play a crucial role. Similarly, questions of cultural authenticity persist. AI-driven dialogue systems can inadvertently reproduce stereotypes or oversimplify cultural practices, particularly when trained on biased datasets (Kramsch, 1998). These risks point to the need for careful integration of AI within pedagogical frameworks, ensuring that it supplements rather than replaces human experience.

Overall, the discussion suggests that AI holds substantial promise for fostering intercultural competence but should be used as a **complementary tool**. The evidence positions AI as a valuable support for both linguistic proficiency and intercultural adaptability, while affirming that real intercultural competence ultimately depends on lived interaction and human experience.

Conclusion:

This research addressed the central question: How can Artificial Intelligence (AI) be used to enhance intercultural communication skills among ESL learners? The review of the literature indicates that AI does indeed offer valuable opportunities in this area. By creating simulated intercultural scenarios,

providing adaptive and instant feedback, and exposing learners to varied communicative norms, AI can strengthen motivation and confidence while supporting specific skills such as listening comprehension. Genuine human interaction remains essential for developing the empathy, unpredictability, and cultural depth that define real intercultural competence. The theoretical contribution of this study lies in presenting AI as a mediator between linguistic proficiency and intercultural awareness, both of which are indispensable for ESL learners preparing to operate in global contexts.

Recommendations:

- **For Researchers:**

Further studies should move beyond short-term or conceptual discussions and adopt longitudinal and comparative designs. Long-term experimental work is particularly important to determine how AI impacts intercultural competence over time and across different cultural and educational settings.

- **For Educators:**

Teachers and curriculum designers are encouraged to combine AI tools with more traditional methods. Chatbots, COIL platforms, and adaptive systems can be effective when used alongside face-to-face dialogue, role plays, and intercultural exchanges. Such a blended approach helps learners benefit from technological innovation without losing the richness of authentic human interaction.

- **For Technology Developers:**

AI systems should be built with **cultural sensitivity and linguistic diversity** at the core. Developers need to draw on datasets that represent a wide range of cultural perspectives, thereby reducing the risk of stereotyping. As Warschauer and Kern (2000) emphasize, technology is most effective when embedded in meaningful communicative contexts rather than treated as an isolated tool.

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