p-ISSN 2301-7554, e-ISSN 2541-3643
Volume 14, Issue 2, June 2026

ENGLISH REVIEW Journal of English Education
Published by English Language Study Program, Faculty of Teachers Training & Education, Universitas Kuningan, Indonesia in collaboration with AISEE (The Association of Indonesian Scholars of English Education)
AISEE

RESHAPING INTERCULTURAL COMMUNICATIVE COMPETENCE IN EFL LEARNERS THROUGH AI-MEDIATED LANGUAGE PRODUCTION AND ADAPTIVE FEEDBACK MECHANISMS

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APA Citation: Mahaputri, R. A., & Hassan, N. S. I. C. (2026). Reshaping intercultural communicative competence in EFL learners through AI-mediated language production and adaptive feedback mechanisms. *English Review: Journal of English Education, 14*(2), 353-364. https://doi.org/10.25134/englishreview.v14i2.164

Received: 11-12-2025 Accepted: 23-02-2026 Published: 16-05-2026

Abstract: The integration of artificial intelligence (AI) into English as a Foreign Language (EFL) education has brought about transformative changes in how learners develop intercultural communicative competence (ICC). This systematic literature review examines how AI-mediated language production and adaptive feedback mechanisms reshape ICC among EFL learners. Following PRISMA guidelines, this study analysed 35 peer-reviewed articles published between 2020 and 2025. The review focuses on ELT-relevant dimensions, including automated writing evaluation, generative AI in language learning, and AI-mediated cross-cultural exchange. Findings indicate that AI facilitates ICC by providing real-time adaptive feedback that helps learners negotiate cultural nuances and linguistic norms. The study concludes that AI serves as a "cultural mediator," offering a triadic interaction model that enhances learners' knowledge, skills, and attitudes in intercultural settings.
Keywords: *AI in EFL; intercultural communication; systematic literature review.*

INTRODUCTION

Intercultural communicative competence (henceforth ICC) has long been a cornerstone of global interaction, enabling individuals and organisations to navigate the complexities of cross-cultural exchanges (Leung et al., 2014; Mahaputri et al., 2025; Simpson & Dervin, 2019; Wang, 2024). Meanwhile, the advent of artificial intelligence has introduced transformative shifts in how these interactions are mediated, reshaping norms, practices, and even power dynamics (Sarwari, 2024; Dai et al., 2024; Fountoulakis, 2024). Previous studies in AI-driven tools for intercultural communication have revealed the impact of AI tools on ICC. Mohamed et al. (2024) claimed that tools such as machine translation, sentiment analysis, and culturally adaptive algorithms have transformed the speed, accuracy, and accessibility of communication across linguistic and cultural boundaries. However, these advancements are not without challenges, as they raise critical questions about bias, ethical implications, and potential erosion of human agency in intercultural exchanges (Romele, 2024).

The historical trajectory of ICC research has primarily focused on human-to-human interactions, emphasizing cultural dimensions, nonverbal cues, and contextual adaptability (Wiseman, 1995). With the proliferation of AI, Dai et al. (2024) extended the discussion on AI in intercultural communication that includes human-machine and machine-mediated interactions, necessitating a reevaluation of traditional frameworks. Before this, Hutchinson (2017) argued that AI systems acted as intermediaries influencing how cultural meanings are interpreted, transmitted, and sometimes distorted. For instance, automatic translation tools may inadvertently reinforce linguistic hierarchy, while recommendation algorithms can perpetuate cultural stereotypes by filtering content through

narrow data-driven lenses (Peters and Carman 2024).

Despite growing interest in the role of AI in intercultural communication, significant research gaps persist. First, there is limited scientific knowledge about how AI technologies collectively influence intercultural norms across domains such as education and cybersecurity. Second, the ethical dimensions of AI-mediated communication remain underexplored, particularly regarding accountability and cultural representation (Yan et al., 2025). Third, while studies often examine technical capabilities, fewer address the mechanisms underlying language production and adaptive feedback. These gaps highlight the need for a systematic review to consolidate existing knowledge and identify avenues for future inquiry.

The motivation for this research stems from the urgent need to understand AI's dual role as both an enabler and disruptor of intercultural communication. As AI systems increasingly mediate global interactions (Lee et al., 2024), their design and deployment must account for cultural diversity to avoid exacerbating existing inequalities (Goffi and Momcilovic, 2022). This review contributes to the field by offering a comprehensive analysis of AI-mediated language production and adaptive feedback mechanisms. By mapping current trends and challenges, we aim to inform policymakers, developers, and researchers about the opportunities and risks associated with AI-driven intercultural communication. It is important to note that while the systematic review portion of this study strictly analyses core literature published between 2020 and 2025, more recent scholarship is integrated into the background and discussion sections. These newer references are utilised exclusively to establish up-to-date theoretical foundations and to better contextualise the findings within the rapidly evolving landscape of AI technologies. This review addresses the following research questions: (1) How does AI-mediated language production facilitate ICC development in EFL learners? (2) What adaptive feedback mechanisms are most effective for intercultural learning? (3) What are the ethical considerations and limitations of AI-mediated intercultural instruction?

METHOD

The systematic review adhered to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines to ensure methodological rigour and transparency (Page et al., 2021). Seven major academic databases and search engines were prioritised based on their relevance to AI and intercultural communication research. IEEE Xplore was selected for its comprehensive coverage of technical AI developments, whereas PubMed provided access to interdisciplinary studies at the intersection of technology and the social sciences. The ACM Digital Library, specialised computer science perspectives, Scopus, and Web of Science served as broad-based, high-quality sources of pre-refereed literature. ScienceDirect and SpringerLink were included for their extensive collections of journal articles across technical and social domains. Google Scholar was utilised as a supplementary resource to capture potentially overlooked publications.

The search strategy employed carefully constructed Boolean phrases combining four conceptual clusters: (“Artificial Intelligence” OR “Generative AI” OR “AI chatbots”) AND (“English Language Teaching” OR “ELT” OR “EFL” OR “ESL”) AND (“Intercultural Communicative Competence” OR “ICC” OR “cross-cultural communication”). These terms were adapted to each database's search syntax while maintaining conceptual consistency. The search included publications from 2020 to 2025 to capture recent developments in this rapidly evolving field, and review articles were explicitly excluded to prioritise original research contributions.

The review employed a multidimensional analytical framework to examine the role of AI in intercultural communication across seven interconnected domains. In this sense, as suggested by Fountoulakis (2024), intercultural communication in the AI era explores how intelligence systems are redefining fundamental concepts of cultural exchange. AI and human interaction investigate the changing dynamics between human communicators and artificial agents, including trust-building and cultural adaptation mechanisms. In addition, Fountoulakis (2024) also states that the AI in education dimension assesses pedagogical applications and their implications for the development of intercultural competence. AI ethics, critically, examines issues of bias, fairness, and accountability in algorithm-mediated communication. AI in cybersecurity examines how cultural factors influence and are in turn influenced by security protocols in digital communication systems. AI and other industries investigate sector-specific applications and their cultural consequences, while AI development and

p-ISSN 2301-7554, e-ISSN 2541-3643
Volume 14, Issue 2, June 2026

governance address policy frameworks and centralisation efforts that shape the field's evolution.

A comprehensive search was conducted across major academic databases, including Scopus, Web of Science (WoS), and ERIC. To ensure absolute relevance to the field, the following Boolean keyword strings were utilised: ("Artificial Intelligence" OR "Generative AI" OR "AI chatbots") AND ("English Language Teaching" OR "ELT" OR "EFL" OR "ESL") AND ("Intercultural Communicative Competence" OR "ICC" OR "cross-cultural communication").

The inclusion criteria mandated that studies must: (1) be published in peer-reviewed journals between 2020 and 2025, (2) focus explicitly on EFL/ELT contexts, and (3) investigate elements of culture or ICC. Studies focusing on non-ELT domains (such as cybersecurity, healthcare, general computer science, and corporate HR) were explicitly excluded.

The initial search yielded 1,850 records. After removing duplicates (n = 850) and screening titles/abstracts for non-ELT topics (n = 700 excluded), 300 full-text articles were sought for retrieval. Upon rigorous eligibility assessment, 265 articles were excluded for lacking an empirical focus on ICC or for using non-ELT frameworks. A final sample size of 35 studies (n = 35) was included for qualitative synthesis.

The search was initially set from 2000 onward to capture the historical trajectory and early developmental stages of the topic; however, the final inclusion was strictly limited to the 2020–2025 period to reflect the most contemporary and rapidly emerging AI technologies, particularly the rise of advanced generative models that significantly impact communication. Furthermore, the narrow final selection of 35 studies from 1,850 initial records indicates that, while general AI research is vast, the intersection of AI and intercultural communication remains a highly specialised and underdeveloped field requiring further empirical exploration.

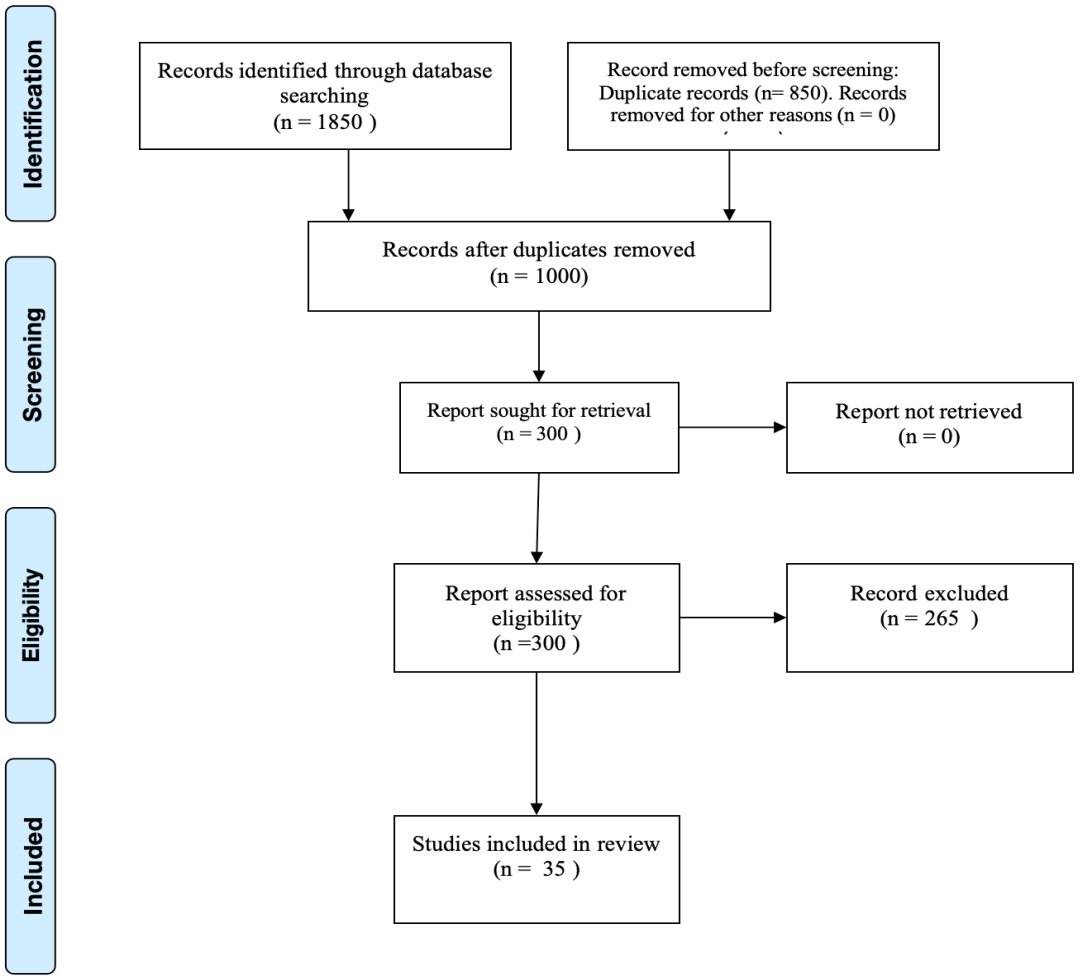


Figure 1. *PRISMA flowchart of study selection process*

As shown in Figure 1, the selection process adhered to strict protocols to minimise bias; however, the process has limitations that should be acknowledged. The English language restriction may have excluded relevant non-English research, and the focus on a few pure publications "overlooked significant grey literature." The rapid evolution of AI technologies means some recent developments may not yet be reflected in published research. Additionally, the topic's interdisciplinary nature posed challenges in establishing uniform quality standards across diverse methodological approaches. These limitations suggest caution in generalising the findings and highlight opportunities for future research.

RESULT AND DISCUSSION

Research trend

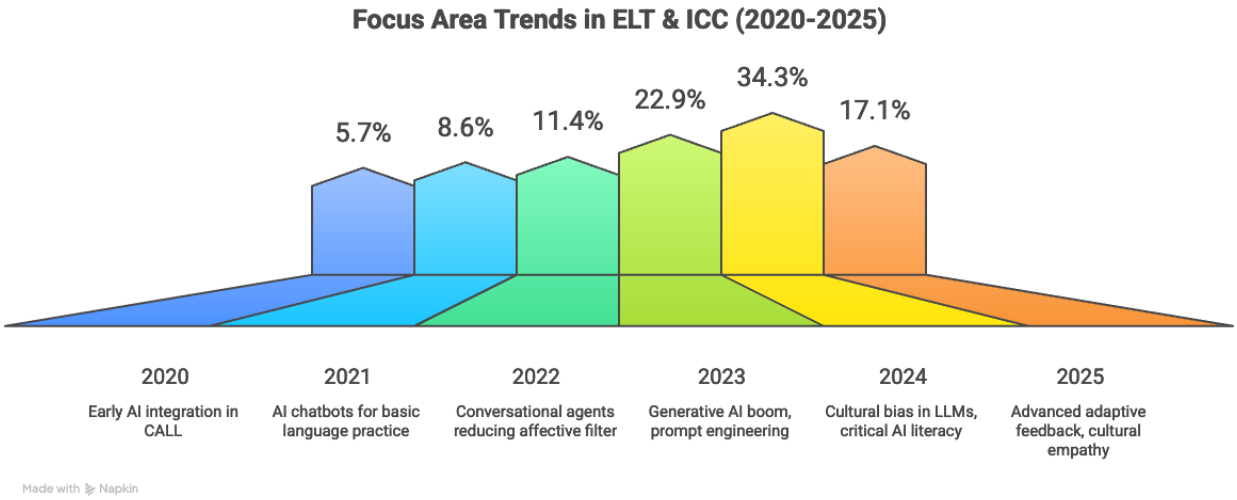


Figure 2. *Distribution of included studies by year (2020–2025)*

Table 2 illustrates the distribution of the 35 included studies across the 2020–2025 timeframe. The data reveal a significant upward trajectory in research output beginning in 2023, coinciding with the public release of advanced large language models (LLMs) such as ChatGPT. The peak in 2024 (34.3%) reflects the ELT community's rapid shift toward investigating generative AI's capacity to act as a cultural mediator and provide adaptive feedback. The early studies (2020–2022) primarily focused on basic automated writing evaluation, whereas recent literature (2024–2025) emphasises complex sociopragmatic negotiation, critical AI literacy, and the potential cultural biases embedded within AI systems.

Emerging patterns reveal shifting priorities over time. Early research focused on foundational, ethical, and technical questions. Morrison's contributions have shifted toward applied work, particularly in education, with studies appearing in 2022 and 2025. This transition, such as the maturation from vertical discussions to practical implementation, in which AI's role in facilitating or hindering intercultural learning experiences becomes empirically measurable. The absence of studies in certain years does not necessarily indicate declining relevance; it may instead reflect publication cycles or the time-intensive nature of intercultural AI research, which often requires multidisciplinary collaboration.

AI-mediated language production and ICC

The integration of AI technologies into intercultural communication has fundamentally altered the landscape of cross-cultural interactions, creating both opportunities and challenges. Dai et al. (2025) have introduced a new research agenda on the intersection of AI and cross-cultural communication directly relevant to ICC-AI-mediated discussions. In addition, as shown in Table 1, educational settings emerge as a primary domain in which AI-mediated communication practices are negotiated, particularly in multilingual academic environments. The study provides critical insights into how university students navigate language, norms, and power dynamics in an AI-facilitated communication space, revealing complex patterns of adaptation and resistance.

p-ISSN 2301-7554, e-ISSN 2541-3643
Volume 14, Issue 2, June 2026

Table 2: *Taxonomy of AI's role in intercultural communication contexts*

Communication Context	Key Focus	Source
Educational Settings	Language practices and norms in a multilingual university environment	(Ou and Gu, 2020)

Defining from demonstrating that AI tools in the educational context often serve as both bridges and barriers to intercultural communication. While these technologies facilitate basic comprehension across language boundaries, they simultaneously introduce new layers of complexity regarding linguistic authority and cultural representation. The studies' examinations of scaling practices and of how students adjust their language use across different communicative contexts indicate that AI-mediated interactions create a hybrid space for traditional notions of language, proficiency, and cultural competence that are continually renegotiated as promoted by Jenks, C. J. (2025).

These transformations extend beyond the technological, facilitating communication and raising fundamental questions about cultural agency in AI-mediated exchanges. The research highlights how students develop strategies to compensate for AI systems' limitations in capturing cultural nuance, suggesting that human users adapt their communication patterns to accommodate technological constraints rather than the other way around. This dynamic creates asymmetrical power relations in which cultural meanings are filtered and drawn through algorithmic processes that may not adequately represent minority perspectives or non-dominant communication styles. The implications of these findings extend to discussions of AI's role in both enforcing and challenging existing cultural hierarchies within global communication networks.

Practical implications for various stakeholders are equally significant. For educators, Adiguzel et al. (2023) had explored the transformative potential of ChatGPT in education, including the ethical and pedagogical implications of AI-based chatbots in the language classroom. Jeon, J., and Lee, S. (2023) identified the complementary roles of ChatGPT (interlocutor, content provider, teaching assistant) and teachers in the context of AI-based ELT. Similarly, Barrot, J. S. (2023) also examines the potential and pitfalls of ChatGPT in second language writing, which is relevant to discussions of the transformative role of AI in ELT.

AI-mediated human interaction: Emerging paradigms and challenges

The integration of artificial intelligence into human communication systems has created new paradigms for interaction, particularly in intercultural contexts, where AI can serve as both a mediator and a participant. As shown in the current research, there are distinct patterns in how AI influences human communication across different settings, with particular emphasis on ethical considerations and adaptive strategies.

Table 3. *Taxonomy of AI-human interaction in intercultural contexts*

Interaction Contexts	AI Role	Key Considerations	Sources
Communication	Mediation	Ethical Implications: Evolving norms	(Hancock et al., 2020)
Workplace Team	Collaboration	Training needs; HR practices	(Arslan, et al., 2022)

The study by Hancock et al. (2020) examines AI-mediated communication as a distinct phenomenon where machine learning and natural language processing technologies actively shape interaction norms. This research highlights how AI systems not only facilitate communication but also help construct structural frameworks that govern intercultural exchanges. The dimensions of these mediation processes are particularly significant, as AI assistance or the embedding of cultural assumptions may not align with the communicative norms of all participants. For instance, automatic language tools may prioritise dominant linguistic patterns while marginalising dialect variations or nonverbal communication cues that carry cultural significance.

In the organisational context, Arslan et al. (2022) demonstrate that AI-human collaboration requires substantial adaptation of traditional human resource practices. The research highlights the need for targeted training programs to optimise team performance, particularly in multicultural

work environments, as first-generation AI systems necessitate such approaches. These findings suggest that effective AI integration depends not only on technological capabilities but also on organisational willingness to evolve HR strategies. The study identifies a crucial gap between AI's technical potential and its practical implementation, where cultural factors significantly influence adoption success. This perspective complements the focus on communication norms by highlighting that the institutional framework is required to support meaningful AI-human interaction.

Both studies collectively illustrate the dual nature of AI's role in human interaction as both a tool for connection and a source of new challenges. While AI systems offer unprecedented capabilities to bridge cultural divides, they also introduce complex issues related to power dynamics, artistic representation, and institutional adaptation. The evolving nature of these interactions suggests that future research should examine the longitudinal effects of AI mediation on intercultural relationship-building and the development of hybrid human-AI communication norms.

AI's transformative role in the ELT context

The integration of artificial intelligence into ELT settings has introduced significant changes to intercultural communication practices, particularly in language, learning, and curriculum development. The current research demonstrates how AI applications address distinct educational needs, raising important considerations for the article.

Table 4. *Taxonomy of AI applications in education*

Application area	Focus	Ethical considerations	source
Language learning	Gen-AI for enhancing language acquisition and grammatical norms.	Data privacy and bias in AI-generated content	(Creely, 2024; Mahaputri et al., 2025).
K-12 Education	AI integration, curriculum, and teaching practice	Student data protection, ethical AI development.	(Akgun and Greenhow, 2022).

The studies by Creely (2024) and Mahaputri et al. (2025) examine how generative AI technologies reshape language and learning processes, demonstrating their capacity to produce grammatically accurate language models that align with normative standards. These systems facilitate intercultural communication by giving learners immediate feedback on linguistic structures, yet they also pose challenges regarding the authenticity of generative cultural content. The research highlights the need to consider AI in machine-mediated language acquisition and the potential loss of the cultural context traditionally provided by human instructors.

In K-12 educational settings, Akgun and Greenhow (2022) identify critical ethical challenges surrounding AI implementation, particularly concerning students, where the governance and algorithms lack transparency. The study emphasises that AI-driven curricular tools must balance the benefits of personalised learning with protections for vulnerable student populations. This research reveals that while AI can adapt teaching materials to diverse cultural contexts, such adaptations risk enforcing existing biases if not carefully monitored. The finding suggests that successful AI integration requires participatory design processes that involve educators from appropriate cultural contexts to ensure respect for technology, local educational values, and communication norms.

Both studies collectively illustrate AI's dual role in education as both an enabler of intercultural learning and a potential source of cultural homogenization. The language-learning research demonstrates AI's capacity to standardise communication practices, while the K-12 study shows that the system must adapt to local educational contexts. In this economy, there is a need for ongoing evaluations of how AI-mediated educational tools influence the development of intercultural competence across different learner populations. Future research should investigate the effects of AI-assisted education on students' ability to navigate authentic intercultural communication scenarios beyond structured learning environments.

Furthermore, Klimova, B., and Chen, J. H. (2024) reported a systematic review of the impact of AI-based tools (chatbots, VR) on students' ability to handle cultural differences in ELT contexts. Hence, educators need to define the need to develop critical AI literacy as a core component of intercultural competence training. As suggested by Huang et al. (2023), students must learn to interrogate AI-generated cultural representations

p-ISSN 2301-7554, e-ISSN 2541-3643
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rather than accept them uncritically, recognising that a mix of systems may flatten cultural complexity. Organisational leaders face the challenge of implementing AI tools in ways that reflect cultural diversity while maintaining operational efficiency, a balance that requires ongoing assessment of how automated systems affect workplace communication dynamics. Policymakers must grapple with the regulatory complexities highlighted in the government studies, developing frameworks that encourage innovation while protecting against cultural homogenization or marginalisation (Kasneci et.al., 2023).

Ethical dimensions of AI intercultural communication

The ethical implications of artificial intelligence in shaping cultural communication and norms have emerged as a critical area of scholarly inquiry, particularly amid the increasingly immediate cross-cultural interactions enabled by AI systems. In addition to these, a complementary framework dominates current discourse: considerations in AI development and application-specific ethical challenges.

Peters et al. (2020) present a comprehensive examination of responsibility and AI design practices, emphasising the need for an ethical framework that guides technologies throughout the development lifecycle. The study highlights how professional norms in AI creation must incorporate cultural sensitivity as a core principle rather than an afterthought. This research demonstrates that ethical AI design requires mixed methods approaches that combine quantitative system evaluations with qualitative assessments of cultural impact. The proposed framework suggests that, without the intentional integration of diverse cultural perspectives during development, AI systems risk perpetuating or amplifying existing intercultural communication biases.

In specialised domains, Munoko et al. (2020) investigate the interplay, illustrating how ethical AI implementation requires attention to both technical architecture and context, as well as to the deployment implications of AI in auditing practices, revealing broader lessons for intercultural communication contexts. The study underscores the necessity of establishing best-practice standards for AI development, particularly in professional settings, where cultural differences may influence interpretations of algorithmic outputs. This research identifies a critical tension between the efficiency gains offered by AI systems and the potential erosion of culturally situated professional judgment. Defining suggests that the deployment of AI in an intercultural context requires balancing technological capabilities with the preservation of human and cultural expertise.

Table 5. *Taxonomy of ethical considerations in AI-mediated intercultural communication*

Ethical focus	Key aspects	Sources
AI development ethics	Framework for responsible design and development	(Peters et al., 2020)
AI application ethics	Professional domain implications	(Munoko et al., 2020)
	Importance of mixed-method approaches	(Peters et al., 2020)
AI governance	Development-based practice standards	(Munoko et al., 2020)

As shown in the article, the landscape of AI in cultural communication spans multiple dimensions and requires coordinated attention. The development phase requires a framework that ensures cultural inclusivity from the outset. At the same time, the application context necessitates ongoing evaluations of how AI systems interact with existing cultural norms. Governance emerges as a cross-cutting concern with both studies, emphasising the need for standardised practices that account for cultural variability without imposing a homogenised solution.

The intersections of these studies revealed a fundamental challenge in AI ethics: developing systems that are simultaneously culturally adaptive and ethically consistent. Peters et al. (2020) focus on design practices, complemented by Munoko et al.'s (2020) application-specific concerns, together illustrating that ethical AI implementation requires attention to both technical architecture and contextual deployment. This dual perspective suggests that future ethical frameworks must incorporate feedback mechanisms that enable AI systems to adapt to intercultural communication dynamics while maintaining core principles. The studies collectively highlight the inadequacy of one-size-fits-all approaches in a world where

cultural context profoundly shapes communication, norms, and expectations.

Several methodological limitations in the refugee literature were acknowledged. The predominance of the Western academic perspective in a sample crisis raises questions about the generalizability of the findings to non-Western cultural contexts. Many studies rely on small convenience samples that may not capture the full spectrum of intercultural communication scenarios. O'Regan, J. P., and Ferri, G. (2025) critically examine the emergence of AI through the lens of critical-realist depth ontology and its implications for intercultural ethics. The rapid evolution of AI technologies also means that some findings may quickly become outdated, particularly those that examine specific technical implementations rather than broader theoretical principles. These limitations warrant caution in extrapolating results and highlight opportunities for more diverse and longitudinal research approaches. Hua et al. (2025) conducted an open discussion forum for experts on the role of AI in intercultural communication, identifying ethical boundaries and future research directions.

Future research directions should address several critical gaps identified in this review. Jobi et al. (2019) have mapped and analysed 84 global AI ethics principles/guidelines, revealing convergence around five core principles (transparency, fairness, non-maleficence, responsibility, privacy). Therefore, there is a pressing need for studies that examine AI's long-term effects on intercultural relationship-building—moving beyond snapshot assessments of communication efficiency to understand how machine-mediated communication influences trust and mutual understanding over time. Comparative research across different cultural contexts would help distinguish between the effects of culture-specific adaptations and those of a decentrally universal AI. The development of standardised matrices for assessing cultural sensitivity in AI systems remains an understudied area with significant practical implications. Additionally, participatory design methodologies that involve diverse cultural groups in AI development processes were further explored as a potential pathway to more inclusive technologies (Guzman, A. L., & Lewis, S. C., 2020).

AI's role in the cultural context

The integration of Artificial Intelligence (AI) across cybersecurity, healthcare, and governance necessitates a shift in how Intercultural Communicative Competence (ICC) is conceptualised in English Language Teaching (ELT). As AI systems increasingly mediate global interactions, the linguistic and cultural biases inherent in their design present new challenges for educators and practitioners alike.

The intersection of ICC and cybersecurity highlights that security protocols are not culturally neutral. AI-driven phishing detection often relies on dominant linguistic patterns, which may fail to identify culturally specific social engineering tactics (Zeadally et al., 2020). Furthermore, privacy protection remains a cultural construct; varying norms regarding surveillance influence how AI assistance is perceived and implemented. ELT & ICC Implications: ELT curricula must move beyond basic grammar to include digital sociolinguistics. Students need to develop the ICC required to identify how cultural rhetorical variations are exploited in digital threats. For ELT, this means integrating "critical digital literacy," where learners analyse how AI-filtered communication might sanitise or misinterpret cultural nuances in secure environments.

Bridging Global Tech and Local Beliefs. In healthcare, AI applications often face resistance when global "best practices" ignore local healthcare beliefs, particularly in low- and middle-income countries (LMICs) (Schwalbe & Wahl, 2020). The power imbalance—where AI tools are predominantly developed in high-income, Western contexts—can lead to "algorithmic colonisation," embedding cultural assumptions that alienate local users. ELT & ICC Implications: For English for Specific Purposes (ESP) in medical contexts, the focus must shift to "Mediated Communication." ICC training should prepare practitioners to serve as cultural bridges between AI-generated data and patients' diverse belief systems. This ensures that English serves as a tool for inclusive health delivery rather than a vehicle for cultural imposition.

Ethical Literacy and Policy Navigation. Current AI governance often suffers from a disconnect between abstract ethical rhetoric and operational reality (Kerr et al., 2020). Regulatory frameworks, such as the EU AI Act, attempt to balance innovation with bias mitigation (Chiappetta, 2023), yet "one-size-fits-all" governance remains elusive in a culturally pluralistic world. ELT & ICC Implications: There is a pressing need for ethical AI literacy within ELT. Students—as future global citizens—must learn to navigate the English-dominated discourse of AI policy. ICC here involves the ability to critique the linguistic

p-ISSN 2301-7554, e-ISSN 2541-3643
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framing of "ethics" and "bias," empowering learners to advocate for more culturally inclusive regulatory standards.

Table 6. *AI across cybersecurity, healthcare, and governance*

Sector	AI Function	ICC Consideration	Key Source
Cybersecurity	Phishing & Privacy	Cross-cultural variations in communication styles affect detection accuracy; differing privacy norms	Zeadally et al. (2020)
Healthcare	Epidemiological Analysis	Tension between global evidence-based medicine and local traditional healing practices.	Schwalbe & Wahl (2020)
Governance	Ethics & Bias Regulation	The gap between rhetorical ethical principles and concrete, culturally sensitive implementation.	Kerr et al. (2020); Chiappetta (2023)

The synthesis of findings across the 11 reviewed studies suggests several emerging patterns in how artificial intelligence influences intercultural communication, norms, and practices. Taken together, the research indicates that AI systems often function as both facilitators and disruptors of cross-cultural exchange. The literature points to fundamental tensions between technological efficiency and cultural authenticity. Based on the limited sample, there are indications that traditional models of intercultural communication may need to be expanded—rather than replaced—to account for the triadic relationships that develop when AI systems mediate cultural exchanges. However, Jenks, C. J. (2025) claimed that examining trust and bias in generative AI in producing discourse on intercultural issues, including racism and discrimination, is important.

The theoretical implications of these findings are substantial and necessitate revisions to traditional models of intercultural communication. The current framework, which primarily focuses on human-to-human interaction, is inadequate to explain triadic relationships that arise when AI systems mediate cultural exchanges. In line with this, Brandt, A., and Hazel, S. (2025) identify the shortcomings of conversational AI (chatbots, voice assistants) in the ICC context and propose an interculturally adaptive AI framework. In this regard, a new conceptual model emerges from the literature in which communication flows become multidirectional, humans adapt to AI systems, AI systems learn from human interactions, and algorithms interpret cultural meaning. This model challenges linear transmission theories of communication by introducing secure feedback loops between human and machine participants. Warschauer et al. (2023) highlighted the benefits and contradictions of AI-generated texts for L2 writers, relevant to the discussion of AI-assisted language production. Additionally, Zhai, C., and Wibowo, S. (2023) concluded their systematic review of the use of AI dialogue systems in enhancing the interactional competence of EFL students at universities. Thus, the studies collectively suggest that future theoretical development should account for AI's active role in co-constructing intercultural meaning rather than treating technology as a natural conduit.

The dimensions of AI in intercultural communication require continued scholarly attention, particularly regarding power dynamics, asymmetries in technology development, and deployment. Recently, Jones, R. H. (2025) examined how LLM discursively construct the concept of culture and their tendency to stereotype certain cultural identities. Tao et al. (2024) evaluated cultural bias in five versions of the GPT across 107 countries and found that all models reflected the values of English-speaking and Protestant European countries. Previously, Long, J., & Lin, J. (2022) have reported their empirical study on the use of AI-based English language teaching modes to develop students' ICC, which is relevant to Byram's model (Byram, 2021). Therefore, future research should investigate how to operationalise ethical principles in Concord and technical implementation and how to bridge the gap between abstract guidelines and practical system design. The role of minority communities in the development of AI communication tools represents another critical area for inquiry, as current systems often reflect dominant cultural perspectives. Studies of grassroots innovations in AI-mediated communication for eczema could provide favourable alternatives to top-down technological solutions.

The intersection of AI with specific professional domains, such as healthcare, education, and cybersecurity, offers rich opportunities for context-specific research. Each domain presents unique, intercultural challenges that may require tailored AI solutions, suggesting the value of sector-specific studies that balance general principles with localised applications. Longitudinal research tracking the co-evolution of AI systems and cultural communication practices would provide valuable insights into how technologies and cultures mutually shape one another over time.

Emerging technological developments, such as practical computing and embodied AI engines, have introduced new dimensions to intercultural communication that current research has only begun to explore. These advancements raise fundamental questions about cultural norms for emotional expression and nonverbal communication. Communication will translate to human-AI interaction contexts (Zhu, 2025). The increasing personalisation of AI systems also merits examination of its potential to either bridge cultural divides through customised mediation or to fragment them through algorithmically generated filter bubbles.

The studies collectively point toward an urgent need for interdisciplinary collaboration in this field, combining insights from computer science, communication studies, anthropology, and ethics. Such a partnership could create a more robust framework for understanding and guiding AI's role in intercultural contexts. The development of shared vocabularies and methodologies across disciplines represents a crucial step toward addressing the complex challenges identified in this review. Ultimately, the research suggests that realising AI's potential to enhance rather than hinder cultural communication will require sustained attention to both technical capabilities and the cultural context in which they operate.

CONCLUSION

This systematic review of 35 studies (2020–2025) makes a highly specific contribution to the field of ELT: artificial intelligence can significantly support intercultural communicative competence not by replacing human exchange but by serving as a mediated testing ground for cultural negotiation and adaptive sociopragmatic feedback. To effectively harness AI, EFL curricula must integrate critical AI literacy alongside traditional ICC frameworks.

Future studies should move beyond self-reported perceptions and employ longitudinal designs to measure actual ICC development in AI-integrated EFL classrooms. Additionally, empirical research is urgently needed to explore how non-native English speakers' (NNES) identities are negotiated when receiving cultural feedback from AI systems trained predominantly on native-speaker corpora.

The implications of these findings extend to both theory and practice. Theoretically review courses for refined models of intercultural communication that account for AI's active role in meaning-making processes. Practically, the importance of inclusive design principles, ethical governance, frameworks, and critical AI literacy in education and educational and professional settings. Future research should prioritise long-term studies of AI's cultural impacts, comparative analyses across diverse contexts, and participatory approaches to technology development. By addressing this, scholars and practitioners can work toward AI systems that genuinely enhance cultural understanding rather than inadvertently eroding it.

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p-ISSN 2301-7554, e-ISSN 2541-3643
Volume 14, Issue 2, June 2026

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