

# Intelligent Mediation and Identity Negotiation: The Empowerment Paradox of Artificial Intelligence in Language Education and Pedagogical Responses

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**Abstract:** Artificial intelligence (AI) is reshaping the language education ecosystem with unprecedented depth, transcending its role as a mere technical tool to become an "intelligent mediator" profoundly influencing learners' cognition and identity construction. This paper examines the "empowerment paradox" induced by AI in language learning and its complex effects on cultural identity. Drawing on social constructivism and intercultural communicative competence theory, the study constructs an analytical framework to elucidate how AI, as Vygotsky's "more knowledgeable other," deeply engages in learners' knowledge internalization and meaning negotiation. Subsequently, it analyzes the dual nature of technological empowerment: AI enhances learners' autonomy, efficiency, and cultural accessibility through personalized learning paths, immersive cultural experiences, and diverse expression tools; conversely, algorithmic biases, superficial cultural representations, shallow virtual interactions, and technology dependence may threaten critical thinking, deep understanding, and healthy cultural identity development. Addressing this paradox, the paper argues for language educators' critical roles as "guides" and "critical reflection facilitators" in human-AI collaborative teaching models. It proposes pedagogical strategies, including integrating AI media literacy into curricula, designing hybrid real-virtual interactive experiences, establishing reflective learning loops to foster metacognitive development, and promoting multicultural perspectives in AI tool applications and content co-creation. These approaches aim to unify language proficiency enhancement with healthy, inclusive, and autonomous cultural identity development. This research provides deeper theoretical insights and practical pathways for language education in the AI era, advancing the integration of technological empowerment and humanistic care.

**Keywords:** Artificial Intelligence; Language Education; Technological Empowerment; Cultural Identity; Social Constructivism; Pedagogical Strategies; Media Literacy

## 1. Introduction

In the era of deeply intertwined globalization and digitalization, artificial intelligence technologies, exemplified by deep learning and natural language processing, are penetrating and reshaping human society with unprecedented force, including significant transformations in language education and international communication. From adaptive tutoring in intelligent tutoring systems (ITS) to immersive contexts created by virtual reality (VR), AI offers learners personalized, round-the-clock language learning experiences, breaking traditional education's spatiotemporal constraints and significantly enhancing efficiency. Furthermore, through intelligent translation and virtual interactions, it directly intervenes in and reshapes intercultural exchange practices<sup>[1]</sup>. This pronounced "empowerment" effect grants individual learners unprecedented autonomy and information access. However, technological empowerment is not a flawless process; it is marked by complexity and dialectics. While enhancing language abilities and communication possibilities, AI may subtly shape worldviews, values, and cultural identities. Cultural biases embedded in algorithmic training data, potential homogenization and stereotyping in AI-generated content<sup>[2]</sup>, and technological biases toward dominant languages (notably English) may pose latent threats to global cultural diversity and profoundly influence individuals' cognition, evaluation, and adherence to their cultural identities.

Current academic discourse on AI in education largely focuses on empirical evaluations of tool efficacy or macro-framework analyses of ethical risks. Yet, few studies explore how AI, as an emerging and agentic "intelligent mediator," specifically and deeply participates in learners' language acquisition

and dynamic negotiation of cultural identity from a micro-perspective of learner subjectivity. This gap leaves our understanding of the intrinsic contradictions of technological empowerment—the "empowerment paradox"—incomplete and renders related pedagogical strategies overly generic. Therefore, rooted in the essence of language learning as an activity deeply interweaving cognitive construction and socio-cultural practices, this paper systematically addresses the following core questions: First, how does AI's technological empowerment specifically influence cognitive and interactive processes in language learning, thereby exerting dual impacts on the formation, maintenance, and intercultural expression of learners' cultural identities? Second, faced with AI's opportunities and challenges, how should language education profoundly adjust its roles and strategies to guide students from passive technology users to learners capable of critically harnessing technology and achieving coordinated development of autonomy and subjectivity? Through systematic responses to these questions, this study aims to construct a more integrated analytical framework, deeply explore the complex interrelationships among AI, language learning, and cultural identity, and propose pedagogically grounded and practically operable response schemes, providing essential theoretical references and practical pathways for navigating the future direction of language education in the AI era.

## 2. AI as "Intelligent Mediator" and Learners' Meaning Construction

To comprehensively understand the complex role AI plays in language education and cultural identity formation, a theoretical framework integrating technology, cognition, and socio-cultural dimensions is indispensable. This study draws upon and synthesizes social constructivist theory with the intercultural communicative competence model, positioning AI as an "intelligent mediator" deeply involved in learners' meaning construction processes rather than a passive, neutral technical tool.

Social constructivist theory, originating from the pioneering work of psychologists like Lev Vygotsky, asserts that knowledge and cognitive development are not isolated individual achievements in a vacuum but are actively constructed through collaboration and dialogue with others within specific socio-interactive and cultural-historical contexts. Vygotsky's concepts of the "zone of proximal development" (ZPD) and "more knowledgeable other" (MKO) provide critical keys to understanding learning mechanisms<sup>[3]</sup>. In AI-deeply integrated language education scenarios, whether intelligent tutoring systems, language learning chatbots, or virtual language partners, they largely fulfill the role of this "more knowledgeable other." Through sustained interactions with AI systems, learners not only acquire specific language rules, vocabulary, and grammatical structures within the "zone of proximal development" but also subtly encounter, imitate, internalize, or reflect upon the cultural norms, values, and behavioral patterns presented or implied by AI. For example, a chatbot's humility or confidence in responding to praise, preferences for direct versus indirect expressions in dialogue strategies, or avoidance/openness toward sensitive cultural topics may convey specific cultural information to learners, thereby profoundly participating in their meaning construction regarding target cultures and even their own. This interaction transcends simple information transmission, becoming an agentic force shaping learners' cognitive frameworks and socio-cultural identities. Consequently, AI systems' algorithmic logic, interface design, interaction modes, and integration with overall instructional design emerge as critical variables influencing learning outcomes and identity construction, necessitating scrutiny within broader socio-cultural contexts.

Simultaneously, Michael Byram's intercultural communicative competence (ICC) model offers vital analytical tools for assessing AI's potential and limitations in fostering learners' intercultural literacy<sup>[4]</sup>. This multidimensional, comprehensive framework not only emphasizes traditional linguistic competence but also encompasses sociolinguistic competence, discourse competence, and a series of intercultural-related "knowledge, attitudes, skills, and behaviors" elements—such as knowledge of target and own cultures, attitudes of openness and curiosity, skills of interpreting and relating, skills of discovery and interaction, and critically, the core component of critical cultural awareness. From this model, AI's immense potential becomes apparent: it can enrich learners' "knowledge" dimension by providing vast, multimodal target cultural background information<sup>[5]</sup>; leverage virtual reality (VR) or augmented reality (AR) to create realistic intercultural simulation scenarios for low-risk practice of "discovery and interaction" skills<sup>[6]</sup>; and even develop intelligent systems capable of identifying and providing feedback on inappropriate aspects of learners' intercultural communication, enhancing sociolinguistic competence. However, the model's complexity also exposes AI's limitations. Can AI-simulated interactions truly cultivate the subtle emotional perceptions, deep empathy, and wisdom required to navigate complex ethical dilemmas in human interactions? Might algorithm-driven cultural information presentations oversimplify or distort cultural realities, thereby impeding the development of learners' critical cultural awareness? Could technological empowerment lead learners to settle for superficial, instrumental

communication success while overlooking the model's ultimate goal of deep cultural understanding and mutual respect? These profound questions reveal the intrinsic contradictions and tensions within AI's empowerment process, laying a theoretical foundation for subsequent exploration of the "empowerment paradox."

### **3. The 'Empowerment Paradox': Dialectics of Technological Empowerment and Identity Risks**

The empowerment effects of artificial intelligence on language learning are evident, offering learners unprecedented opportunities across personalization, immersion, autonomy, and beyond. However, this empowerment is neither unidirectional nor flawless; it is accompanied by profound intrinsic contradictions, forming a paradox of "empowerment and dependence" and "liberation and discipline." A thorough analysis of this paradox is central to understanding the challenges facing language education in the AI era.

#### ***3.1 Empowerment Dimensions: Personalization, Immersion, and Identity Expression Reinforcement***

AI's core strength lies in its robust data processing and pattern recognition capabilities, transforming truly personalized, adaptive learning from an ideal into reality. Traditional classroom teaching, constrained by teacher-student ratios and uniform pacing, struggles to accommodate individual differences. In contrast, AI systems based on learner analytics can meticulously track and analyze each learner's behavioral data, knowledge mastery, cognitive characteristics, and even emotional states, dynamically adjusting instructional content, difficulty, pace, and feedback<sup>[7]</sup>. For instance, intelligent tutoring systems can generate unique learning path maps for students, automatically recommending exercises for weak areas; natural language processing-based intelligent writing assistants not only identify basic grammatical and lexical errors but also offer advanced suggestions on logical coherence and stylistic features; AI-driven oral practice partners can simulate diverse social scenarios for human-machine dialogues, providing immediate, objective evaluations and feedback on pronunciation, fluency, pragmatic appropriateness, and more<sup>[8, 9]</sup>, significantly boosting learners'—especially introverts'—willingness and confidence in oral expression. This technological empowerment enables learners to learn efficiently at their own pace, targeting weaknesses, and grants unprecedented autonomy and control.

Secondly, the essence of language learning extends beyond mastering a symbolic system to understanding a culture and entering a new world. AI technology, particularly when integrated with VR/AR immersive technologies, offers unprecedented possibilities for creating realistic target language cultural environments<sup>[10]</sup>. Learners are no longer confined to textbook textual descriptions but can "personally" stroll virtual Paris streets, participate in simulated Japanese tea ceremonies, or engage in virtual business negotiations with characters from diverse cultural backgrounds. Research indicates that such immersive experiences effectively activate learners' multiple senses, tightly integrating language learning with specific contexts, thereby significantly enhancing cultural sensitivity and empathy<sup>[6]</sup>. AI can also intelligently recommend relevant cultural products (e.g., film clips, music, literary works) based on learners' cultural backgrounds and interests, or even develop "cross-cultural intelligent language learning systems" that recognize and adapt to learners' cultural differences<sup>[11]</sup>. This empowerment vastly expands the breadth and depth of cultural learning, making formerly distant, abstract cultures tangible and vivid.

Furthermore, AI provides new tools and platforms for reinforcing cultural expression and identity. Language serves as a critical carrier of identity, particularly in intercultural contexts. For immigrants or international students in foreign lands, AI tools (e.g., intelligent writing assistants, multimedia content generators) can help them more effectively narrate their cultural stories or share hometown practices in target or native languages, thereby maintaining and consolidating their cultural roots in new environments. Simultaneously, through AI's personalized cultural content recommendations and virtual experiences, learners can delve deeper and more nuancedly into target cultures' facets. This in-depth understanding may prompt learners to discover elements aligning with their values, fostering positive emotional connections, and even forming a degree of "selective identification" with the target culture, developing a more inclusive "bicultural identity" or "global citizenship" consciousness<sup>[12]</sup>.

#### ***3.2 Risk Dimensions: Homogenization, Superficiality, and Potential Loss of Subjectivity***

Nevertheless, profound risks underlie empowerment, constituting the paradox's other facet. Primary among these is algorithmic bias and the solidification of cultural stereotypes. AI systems' "intelligence"

derives from vast learned data, which is not value-neutral. If training data contains biases or stereotypes toward specific ethnicities, genders, or regions, AI may unconsciously replicate or amplify them during learner interactions<sup>[13]</sup>. For example, a language learning app might oversimplify cultural information from different countries, equating a region's diverse dietary habits solely to one iconic food, or highlighting only the most commercialized, superficial symbols of festivals while ignoring rich historical-cultural connotations and regional variations. Prolonged exposure to such algorithmically "filtered" and "constructed" cultural information may lead learners to form rigid, inaccurate cultural cognitions, hindering genuine intercultural understanding and negatively impacting their own and others' cultural identities.

Secondly, there exists a potential threat to cultural homogenization and linguistic diversity. AI technology's development and commercial applications exhibit significant scale effects, naturally prioritizing service to large-user, high-commercial-value mainstream languages and cultures, such as the English-speaking world<sup>[14]</sup>. This leads to a global trend where premium AI language learning resources and cultural content concentrate heavily toward a few dominant language cultures<sup>[15]</sup>. When using these mainstream AI tools, learners may unconsciously and long-term immerse themselves in their embedded cultural presuppositions, value orientations, and thinking patterns, potentially weakening identification with and usage frequency of their native cultures over time, even diminishing native language cultures' vitality, thereby exacerbating macro-risks of global cultural homogenization at the micro-level.

Moreover, technology dependence may induce cognitive "laziness" and subjectivity loss. When AI tools become ubiquitous and highly convenient (e.g., powerful real-time translation, one-click article generation writing tools), learners may over-rely on them, neglecting the arduous process of deep learning and independent thinking. The value of language learning transcends skill acquisition; it is a profound process shaping thinking modes, exercising cognitive habits, and even reshaping worldviews. Difficulties encountered, errors made, and efforts to overcome them in learning a new language are invaluable experiences. If AI completely "substitutes" this process, learners may lose opportunities for cultural reflection, independent insight construction, and unique cultural personality shaping during language learning, ultimately leading to superficial cognition and subjectivity loss in cultural identity.

Finally, a disconnect may emerge between virtual interactions and authentic identities. AI can simulate highly realistic conversational partners and cultural scenarios, but these differ essentially from real-world human interactions filled with complexity, ambiguity, unpredictability, and deep emotions. Over-immersion in AI-constructed, relatively safe and controllable virtual worlds may leave learners lacking necessary adaptability, responsiveness, and empathy in real intercultural exchanges. The "cultural confidence" or "intercultural competence" built through human-machine interactions in virtual worlds may prove fragile in real interpersonal conflicts and cultural shocks, even generating identity dissonance due to vast gaps between expectations and reality.

#### **4. Pedagogical Responses: Reshaping Educators' Guiding Roles in Human-AI Collaboration**

Faced with the profound and complex empowerment paradox introduced by artificial intelligence, language educators must not adopt a passive stance of technological determinism nor simply view AI as an efficiency-enhancing auxiliary tool. Instead, they must profoundly recognize AI as a significant variable influencing students' cognition and cultural identity, actively transforming their roles from traditional "knowledge transmitters" to "learning designers," "guides for meaning construction," and "facilitators of critical reflection" within human-AI collaborative environments<sup>[16]</sup>. Under this new role positioning, the core task of teaching shifts from merely imparting language knowledge to assuming the responsibility of cultivating students' "cultural literacy in the AI era," guiding them to maintain lucid humanistic care and critical reflection while enjoying technological conveniences.

##### **4.1 Enhancing Media Literacy and Critical Thinking**

The primary pedagogical response is to systematically integrate AI media literacy education into language curricula. Educators should guide students to profoundly recognize that no AI technology is value-neutral; it is underpinned by algorithms, data, and specific design philosophies<sup>[2]</sup>. Specific teaching practices may include: designing dedicated modules to introduce AI's basic operating principles, particularly the decisive roles of training data and algorithms in shaping outputs; organizing critical evaluation activities, such as having student groups select several mainstream translation software or language learning apps, compare their performances in handling texts rich in cultural connotations (e.g., idioms, humor, allusions), analyze differences, errors, and potential underlying cultural presuppositions,

and compile evaluation reports. Through such inquiry-based learning, students will learn not to blindly follow AI's "standard answers" but to maintain a cautious and questioning attitude during use, thereby cultivating core abilities for independent judgment and critical thinking in complex information environments.

#### ***4.2 Emphasizing the Irreplaceability of Authentic Interactions and Deep Experiences***

Educators must clearly recognize virtual experiences' limitations in instructional design and always emphasize the irreplaceable value of authentic interpersonal interactions and deep cultural experiences. While leveraging AI for efficient, personalized auxiliary teaching, high priority must be given to creating opportunities for students to participate in real, face-to-face intercultural exchange activities. This means shifting teaching modes toward a "hybrid" experiential learning. Online AI-simulated dialogue practices can serve as "scaffolding" or "warm-ups" for offline real exchanges, helping students build initial confidence and language reserves, but the ultimate goal must point toward authentic communication contexts. Educators can organize cross-border online project-based learning (COIL - Collaborative Online International Learning), arrange offline meetings with native speakers, encourage community visits, cultural field investigations, or even overseas exchange programs. In these authentic interactions, students can truly experience intercultural communication's complexity, the importance of non-verbal cues, and the subtle processes of building interpersonal trust—precious experiences that no AI simulation can fully replace.

#### ***4.3 Promoting Reflective Learning to Consolidate Subjectivity***

To prevent technology dependence and consolidate learners' subjectivity, educators should systematically design reflection segments in teaching processes, guiding students to engage in metacognitive thinking about their AI usage behaviors and learning experiences. This can take various forms, such as requiring students to regularly write "AI learning reflection journals," recording specific experiences, encountered puzzles, unexpected discoveries in AI interactions, and focusing on how technology influences their language learning habits, thinking modes, and even views on different cultures. Teachers can design guiding questions, such as: "Today AI corrected an error of yours; have you considered the thinking stereotype behind it?" "When using translation software, do you feel you've lost some joy of independent thinking?" "Has the cultural content recommended by AI given you new insights into a country or solidified certain impressions?" Such sustained, guided reflections can help learners transition from passive technology users to active monitors and meaning constructors of their own learning processes, thereby firmly grasping their subjectivity in technological environments.

#### ***4.4 Advocating Multicultural Perspectives and Responsible Use***

When selecting and applying AI tools, educators should consciously advocate multicultural perspectives to counter potential cultural homogenization risks. Where conditions permit, prioritize AI platforms supporting non-dominant languages and containing rich, diverse global cultural content. Furthermore, educators can leverage AI's efficient content generation capabilities to guide students in "content co-creation." For example, organize students to use AI tools to collaboratively create multilingual learning resource libraries reflecting their unique cultural backgrounds and share them with learners in other countries and regions. This not only greatly enriches teaching materials' diversity but also enhances students' cultural confidence and identity during the process. Additionally, incorporating AI ethics education into curricula is crucial. Deeply discussing issues like data privacy, information security, and intellectual property in AI applications with students cultivates them into responsible, ethical digital citizens—a indispensable educational duty for language education in the AI era.

### **5. Conclusions**

Artificial intelligence's intervention in language education is a profound, dialectically filled structural transformation. As an "intelligent mediator," its technological empowerment effect is a double-edged sword: while granting learners unprecedented autonomy, efficiency, and convenience, it also brings potential risks of cognitive dependence, cultural bias solidification, subjectivity loss, and authentic experience deficits. Escaping this "empowerment paradox" hinges on the entire educational ecosystem—especially frontline educators—achieving a profound shift from solely pursuing "instrumental rationality" to emphasizing "value rationality." This means prioritizing core humanistic values like

holistic human development, critical thinking cultivation, cultural diversity respect, and healthy identity construction in AI's design, application, and evaluation.

Future language education will inevitably be a deeply human-AI collaborative mode. In this mode, AI's strengths lie in handling standardized, repetitive knowledge transmission and skill training, liberating teachers from heavy burdens. Educators' core value becomes more prominent, focusing on tasks AI cannot replace: designing creative, humanistic learning experiences; stimulating students' intrinsic motivations; guiding deep thinking and complex dialogues; and providing emotional support and value guidance at key moments. Thus, language educators urgently need to actively transform from unidirectional knowledge transmitters into designers of complex learning environments, guides for student meaning construction, and facilitators of critical reflection.

By systematically integrating AI media literacy into curricula, adhering to teaching principles combining virtual and real, constructing deep reflection-promoting learning loops, and advocating diverse, responsible technology applications, we may guide learners to maintain lucid humanistic care and critical reflection while enjoying technological dividends. The ultimate goal is to cultivate future citizens capable in increasingly complex technological environments of proficiently wielding AI tools while preserving independent thinking and sound personalities, possessing solid global language communication abilities alongside healthy, inclusive, autonomous cultural identities. This is not only language education's own innovation imperative but also a steadfast reaffirmation of "human" value in the AI era.

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