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ARTIFICIAL E NATURAL: INTERLIGÊNCIAS E EQUILÍBRIOS EM PLE
ARTIFICIAL AND NATURAL: INTERLLIGENCE AND BALANCE IN PFL
ARTIFICIAL Y NATURAL: INTERLIGENCIAS Y EQUILIBRIOS EN PLE

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RESUMO

Introdução: A Inteligência Artificial (IA) assume um papel interventivo na área da educação, trazendo oportunidades inovadoras para o ensino-aprendizagem de línguas estrangeiras. A irrefreável interação de inteligências requer novas abordagens e representações que inquietam e reconfiguram as práticas mais tradicionais no ensino de línguas.
Objetivo: Analisar as experiências e reflexões dos estudantes no contexto do uso da IA para a aprendizagem de Português como Língua Estrangeira (PLE).
Métodos: Abordagem qualitativa baseada em entrevistas a estudantes de português da Universidade Politécnica de Macau complementada por uma perspectiva autoetnográfica da experiência de ensino dos autores.
Resultados: Expressam as competências e práticas digitais dos estudantes de língua portuguesa na China, mas também os seus anseios, reflexões e perspetivas em tempos de novas morfoses ou disrupções motivadas pela veemência com que a IA tem adentrado pela sociedade.
Conclusão: A presente investigação revela a importância da IA na aprendizagem de PLE, promovendo práticas educativas que se adaptem às transformações sociais e tecnológicas contemporâneas. A análise das interações dos estudantes com a IA para a aprendizagem de línguas estrangeira é fundamental para garantir que as soluções tecnológicas sejam trabalhadas com base nas suas necessidades e expectativas.

Palavras-chave: português língua estrangeira; inteligência artificial; china; pesquisa qualitativa

ABSTRACT

Introduction: Artificial Intelligence (AI) plays an intervening role in the field of education, bringing innovative opportunities for foreign language teaching and learning. The unstoppable interaction of intelligence requires new approaches and representations that unsettle and reconfigure traditional practices in language teaching.
Objective: To analyze the experiences and reflections of students in the context of using AI to learn Portuguese as a Foreign Language (PFL).
Methods: Qualitative approach based on interviews with Portuguese students from the Polytechnic University of Macau, complemented by an autoethnographic perspective of the authors' teaching experience.
Results: The digital competencies and practices of Portuguese language students in China are expressed, along with their desires, reflections, and perspectives in times of new morphoses or disruptions driven by the intensity with which AI has entered society.
Conclusion: This research divulges the importance of AI in PFL learning, promoting educational practices that adapt to contemporary social and technological transformations. Analyzing students' interactions with AI for foreign language learning is essential to ensure that technological solutions are developed based on their needs and expectations.

Keywords: portuguese as a foreign language; artificial intelligence; china; qualitative research

RESUMEN

Introducción: La Inteligencia Artificial (IA) asume un papel muy dinámico en el área de la educación, trayendo oportunidades innovadoras para la enseñanza-aprendizaje de lenguas extranjeras. La irrefrenable interacción de inteligencias requiere nuevos enfoques y representaciones que inquietan y reconfiguran las prácticas más tradicionales en la enseñanza de lenguas.
Objetivo: Analizar las experiencias y reflexiones de los estudiantes en el contexto del uso de la IA para el aprendizaje de Portugués como Lengua Extranjera (PLE).
Métodos Enfoque cualitativo basado en entrevistas a estudiantes de portugués de la Universidad Politécnica de Macao, complementado por una perspectiva autoetnográfica de la experiencia de enseñanza de los autores.
Resultados: Expresan las competencias y prácticas digitales de los estudiantes de lengua portuguesa en China, así como sus inquietudes, reflexiones y perspectivas en tiempos de nuevas morfologías o disrupciones motivadas por la vehemencia con que la IA ha penetrado en la sociedad.
Conclusión: La presente investigación revela la importancia de la IA en el aprendizaje de PLE, promoviendo prácticas educativas que se adapten a las transformaciones sociales y tecnológicas contemporáneas. El análisis de las interacciones de los estudiantes con la IA para el aprendizaje de lenguas extranjeras es fundamental para garantizar que las soluciones tecnológicas se desarrollen en función de sus necesidades y expectativas

Palabras Clave: portugués lengua extranjera; inteligencia artificial; china; investigación cualitativa

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INTRODUCTION

The advancement of Artificial Intelligence (AI) technologies has profoundly transformed various sectors of society, including education, by challenging traditional practices and redefining teaching and learning methods. In the context of foreign language education, AI offers innovative tools with significant potential to support students and teachers in overcoming linguistic and cultural barriers. However, despite the exponential growth in literature on the application of AI in language teaching (Adiguzel et al., 2023; Pérez-Núñez, 2024), the concrete impact of these technologies on the teaching of Portuguese as a Foreign Language (PFL) remains underexplored, particularly concerning students' experiences and perceptions.

In recent decades, the teaching of Portuguese has gained prominence in China, driven by the strengthening of economic and cultural ties between China and Portuguese-speaking countries. The territory of Macau stands out as a strategic hub for PFL learning, not only due to its history as a former Portuguese colony but also because of its geopolitical position as a platform for intercultural dialogue (Jatobá, 2020; Pires, 2022). In this context, integrating AI into Portuguese language learning represents an opportunity to explore new methodological approaches and address specific challenges in foreign language education.

This study aims to investigate the perceptions of Chinese university students regarding the use of AI in PFL learning. It seeks to understand how these tools are integrated into the learning process and to analyze students' expectations and reflections on the impact of AI technologies on their academic and professional trajectories. Through a qualitative approach, the study proposes to amplify student voices at a time when the disruption caused by AI challenges established pedagogical practices and reshapes skills and perspectives in the field of education (Hutson et al., 2022; Holmes & Porayska-Pomsta, 2023).

By exploring students' experiences, this work intends to contribute to a more inclusive, dynamic, and digitally aligned foreign language education that meets the demands of an intercultural and digital society.

1. THEORETICAL FRAMEWORK

Technological changes have been central in transforming the education sector throughout history. From early studies on the introduction of new pedagogical tools to contemporary debates on the integration of AI, the impact of disruptive innovations in education has been widely discussed in the literature (Bower & Christensen, 1995; Dreyfus, 1972; Moravec, 1988). The advent of generative AI has reinvigorated these discussions, positioning itself as a force that challenges traditional educational methods and demands a rethinking of pedagogical practices (Chaka, 2022; Jazbec, 2023).

The concept of disruption, in this context, is associated with AI's capacity to transform teaching and learning paradigms profoundly. Recent studies highlight that the AI revolution is not merely a continuation of technological progress but a radical shift that calls into question fundamental principles of education (Giannini, 2023; Ra et al., 2021). Disruption, therefore, is not only technical but also epistemological, affecting not only how teaching and learning occur but also what is considered valid knowledge and how it is produced. The transformation driven by AI, particularly in language teaching, challenges the notion of standardized pedagogical practices, promoting more personalized and adaptive approaches (Klimova et al., 2024).

The impact of AI on education can be observed across multiple dimensions. First, in access to knowledge. Tools such as ChatGPT have significantly expanded the democratization of information, enabling students from diverse contexts to access educational content tailored to their specific needs (Klimova et al., 2024; UNESCO, 2023). Furthermore, AI's ability to provide rapid and contextualized responses redefines the role of the teacher, who transitions from being the primary transmitter of knowledge to a mediator, facilitating the critical use of these technologies (Zhai & Wibowo, 2023).

The concept of technological disruption is intrinsically linked to the idea of adaptation. Throughout history, innovations such as the introduction of the internet (Hui et al., 2001), the popularization of Google (Vaidhyanathan, 2009), and remote learning during the COVID-19 pandemic (UNESCO, 2020) faced significant initial resistance before becoming integrated into everyday educational practices. As with these technologies, it is expected that AI will become an intrinsic part of pedagogical practices, transforming and shaping new ways of learning and teaching (Giannini, 2023).

In language teaching, AI has demonstrated significant potential to personalize learning and facilitate the acquisition of new linguistic competencies. Currently, tools such as ChatGPT offer detailed explanations, create exercises adapted to different proficiency levels, and simulate conversational interactions that promote more practical and immersive learning (Klimova et al., 2024). This ability to adapt to individual student profiles represents a significant advancement over traditional methods, which are often limited by standardized curricula. However, concerns have been raised regarding excessive reliance on technology, which may compromise learners' autonomy and their ability to develop critical and creative skills.

The use of Artificial Intelligence offers new perspectives in educational contexts, highlighting the importance of adapting to learners' needs to foster more dynamic and autonomous learning environments. In this sense, AI literacy is imperative, essential not only for professionals in the field but for all citizens, involving a critical understanding of the ethical and social implications of the technology (Queirós et al., 2024). Additionally, students have identified benefits in using AI tools, recognizing their limitations and complementing them with their contributions (Ferreira & Loureiro, 2024). These practices, besides being motivating, contribute to self-regulated

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learning, which is fundamental for academic success and the adoption of effective strategies, such as planning and time management by students (Ferreira & Pedrosa, 2024).

The integration of AI in education has encouraged reflection on the need for AI literacy, empowering teachers and students to use these tools responsibly and informedly. This process involves not only technical competencies but also a critical awareness of the ethical and social impacts arising from their use (Ra et al., 2021; Cruz et al., 2024). In the teaching of Portuguese as a Foreign Language (PFL), AI can provide adaptive support, simulate dialogues, and facilitate linguistic immersion, complementing human interaction (Haleem et al., 2022). This integration must be accompanied by adequate training and critical awareness of issues such as privacy, inclusion, and digital literacy (Jazbec, 2023; Giannini, 2023; UNESCO, 2023).

The artificial is increasingly perceived as natural. AI is a source frequently relied upon, building an *interlligence* based on the interaction between various available resources and contributions. Some experts have defined this interaction as hybrid intelligence (Calvi & Machado, 2022; Shneiderman, 2022), that is, collective intelligence of humans and AI elements collaborating to serve a purpose, a relationship between humans and machines resulting in a practice of hybrid intelligence. In this article, considering the educational context in particular, we understand that we live in a time of *interlligence*, or rather, *interlligences*, as we are faced with a close and blended interaction in which it is increasingly difficult to identify or distinguish each of the constituent parts. The naturalness with which the artificial has been used leads to the development of an interactive or inter-recursive *interlligence* to achieve individual and collective goals, which is increasingly less a sum or combination of elements and more a unit in itself with complex nuances that are difficult to unravel.

As an example, one of the most persistent themes in the context of AI in teaching and learning is identifying the contribution or influence of AI in students' written work. According to He (2024), across China, university students are using advanced generative AI detection systems to conceal the presence of AI in their assignments and dissertations. In other words, students are turning to more AI to deceive the controls that teachers and institutions have been implementing on this matter. Currently, there are tools not only to camouflage traces of AI but also to humanize the texts that AI produces. Regarding this issue, Milano et al. (2024) note that while there are software programs to verify the likelihood of texts being produced by large-scale language models (LLMs), their reliability remains limited. Moreover, the rapid evolution of these models seems to keep them one step ahead of detection programs. Copying, cheating, or shortcuts to achieve results with less effort have always lurked in the shadows of formal learning, an old cat-and-mouse game now transformed into a kind of AI versus AI.

These morphoses of intelligences generate a contemporary *interlligence* that is becoming increasingly familiar and quotidian, yet still highly complex to regulate and define theoretically, ethically, and linguistically.

2. METHODS

To gather the experiences and perceptions of students, interviews were conducted with 25 third- and fourth-year students from the Bachelor's program in Portuguese at the Polytechnic University of Macau. These cohorts were selected due to their advanced proficiency in the Portuguese language and greater experience with various pedagogical approaches, including the use of technology in teaching. The majority of participants were aged between 21 and 24 years, hailing from various provinces in mainland China (approximately 70 percent) and Macau. Although there were variations in proficiency levels in Portuguese among the interviewees, all had prior experience using AI tools for language learning. This background made them particularly valuable interlocutors for analyzing the impact of these technologies in the educational context.

The students' linguistic proficiency and geographic backgrounds, combined with their experience interacting with artificial intelligence tools, provided a consistent foundation for the intended research. Additionally, being students under the curricular instruction of the authors facilitated interaction and a deeper understanding of the learning dynamics and perceptions regarding technology use in the educational process. The combination of these characteristics allowed for a comprehensive analysis of the participants' experiences, ensuring that the information obtained was representative of the realities faced by Portuguese learners in China. The interviews followed a semi-structured script, as recommended by Gil (2008), allowing interviewers to explore both predefined questions and emergent topics during interactions. The interviews took place in small groups in an informal and relaxed setting, aimed at promoting open dialogue where participants felt comfortable expressing their viewpoints. Participants were informed about the research objectives and provided informed consent for the collection and use of their data exclusively for academic purposes. Furthermore, data anonymization was ensured to protect participants' privacy, in accordance with international ethical guidelines for qualitative research (Ellis & Adams, 2014).

The methodology also includes an interpretative autoethnographic approach, as advocated by Denzin (2013), to deepen the analysis and contextualize students' perceptions. The authors' experiences as instructors and researchers in teaching Portuguese as a Foreign Language (PFL) in China were integrated as a complementary data source. Autoethnography allows researchers to use their own stories, experiences, and critical reflections as analytical tools, enriching the study with a broader understanding of the intercultural and pedagogical dynamics involved in language teaching (Adams et al., 2021). This approach is particularly relevant in intercultural contexts, where the researcher's subjectivity can illuminate the complexities of interactions among educational agents (Liu, 2022).

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To ensure the validity of the results, the researchers adopted methodological triangulation practices, comparing interview data with autoethnographic reflections and existing literature on the impact of AI in education. This triangulation contributes to a more robust and detailed analysis by mitigating potential biases associated with the subjectivity of qualitative methods.

3. RESULTS

The discussion with students focused on four major topics recurrent in the literature regarding the integration of AI in language education, namely: the use of AI for learning Portuguese; the advantages and disadvantages identified in relying on AI for this purpose; the integration and adaptation of foreign language teaching to new digital technologies; and the role of the teacher as mediator and evaluator in the teaching-learning process. Overall, students expressed a positive attitude toward the integration of AI in Portuguese learning, recognizing both its significant advantages and its limitations. A recurring theme was the need to maintain a balance between the use of AI and human interaction, emphasizing a desire for language education that embraces new technologies without compromising the benefits of interpersonal relationships.

3.1 The use of AI for Learning Portuguese

Students reported a broad and diverse use of tools such as Google Translate, DeepL Translate, ChatGPT, Linguee, Kimi, and TianGong AI. These technologies were described as essential elements in their study routines, being used for both everyday tasks and more specific objectives. According to the reports, 80% of participants regularly use AI, while the remaining participants rely on these tools occasionally, such as when preparing presentations or researching cultural information about Portuguese-speaking countries.

The mentioned tools were widely recognized for their effectiveness in tasks such as automatic translation, grammatical correction, sentence construction, and vocabulary expansion. One student highlighted: “ChatGPT helps me correct my texts, build better sentences, and find more appropriate words.” Another participant emphasized the utility of AI for creating support materials: “AI can help produce material for a presentation, correct errors, and structure scripts.”

Additionally, one of the aspects most valued by participants was the support provided by AI for pronunciation training, especially in the context of autonomous learning. Many emphasized the neutrality of the generated voices, which avoids regional influences, as an effective resource for developing oral production. One student noted: “The AI voice is already adjusted; it doesn’t have an accent from any region, so it’s good for students to practice listening comprehension with various types of texts beyond the materials provided by the instructor in class.”

Another practical example mentioned was the ability of AI to facilitate the search for updated information about Portuguese-speaking countries. Students acknowledged that these tools save time and provide more direct access to relevant content, as reported by one participant: “It helps me search for information about current trends in Brazil or Portugal because books and online information are scattered and require multiple searches and much more time.”

The experience of the authors reveals that the excessive use of AI tools has contributed to a significant reduction in the development of critical skills among students. Increasingly, both written and oral assignments lack analytical depth, presenting advanced lexical and grammatical structures that do not correspond to the students’ actual proficiency levels. This discrepancy suggests a superficial engagement with study materials, where reflective effort and autonomous thinking are often replaced by automatically generated responses from AI.

Technological dependency was also identified as a factor that compromises students’ confidence in oral interaction contexts. Some participants admitted that relying on AI, although convenient, leaves them less prepared to respond spontaneously in presentations or discussions. As one student reported: “When I use ChatGPT to develop content for my assignments, I actually feel that I’m not fully prepared. It becomes difficult to improvise or answer questions because I don’t know how to explain the details.” These perceptions underscore the need for pedagogical practices that encourage a more balanced use of AI, fostering critical reflection and active engagement with the content.

The data indicate that, while AI has significant potential to facilitate and personalize learning, promote student autonomy, and support metacognitive strategies in oral production (Qiao & Zhao, 2023), its use must be carefully integrated into pedagogical practices. The use of these tools should be complemented by strategies that encourage students to develop critical and creative skills, minimizing the risks associated with technological dependency. Introducing activities that promote a critical analysis of AI-generated content and encouraging assignments that require reflective effort and autonomy can contribute to a more productive balance between technology and learning.

3.2 Foreign Language Teaching and New Digital Technologies

The results confirm that the integration of AI in foreign language education is an irreversible trend, but it requires a structured and careful pedagogical approach. Most students acknowledged the importance of adapting language teaching to the current technological reality, emphasizing the need to incorporate AI in a planned manner within curricula. The balance between traditional methods and the use of new technologies is essential to ensure effective learning. One student highlighted, “I think there needs to be a balance between AI and

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traditional methods. Language learning can be better and more interesting through AI, but it lacks the ability to create ideas and imagination, as well as the intercultural aspects of language learning."

AI tools contribute to creating a more personalized and flexible learning environment, helping students develop the knowledge and skills that and skills that modern, technology-driven society seeks and demands (Jiang, 2022; Zhai & Wibowo, 2023). Participants in this study recognize that the use of AI is consolidating the democratization of access to learning, as it offers economical and accessible solutions, particularly in contexts where educational resources are limited. One participant noted that "it can enhance students' enthusiasm for learning while simultaneously reducing education costs, with less need to hire tutors or enroll in certain language courses." This perception reflects the relevance of AI as a means to expand educational opportunities and make learning more inclusive.

However, classroom observations by the authors indicate that the integration of AI must go beyond the mere provision of technological tools. Students who use AI intensively often show difficulties in integrating the knowledge generated by technology into broader communicative and cultural contexts. For instance, it was observed that while students can use AI for tasks such as translation or text generation, they struggle to critically analyze the produced content and adjust it to specific situations. This underscores the need for an approach that promotes technological literacy and critical thinking, empowering students to assess the reliability and relevance of the information generated.

The lack of spontaneity and the loss of creativity among foreign language learners due to the influence of AI is a concern that has been discussed, particularly regarding how to address indispensable human skills such as critical thinking, collaboration, and creativity within the realm of AI (Hong, 2023; Liu, 2023). Students tend to replicate the structures suggested by AI rather than explore creative alternatives or adapt content to their individual needs and learning styles. This phenomenon reinforces the necessity of integrating pedagogical practices that encourage students to go beyond pre-formatted solutions, promoting independent thinking and experimentation.

Another relevant aspect is the importance of preparing teachers to integrate AI into pedagogical practices. The authors found that in contexts where educators lack specific training in digital literacy, the use of AI by students may be underutilized or even counterproductive, as there is a lack of guidance on how to use these tools ethically and critically. This gap highlights the urgency of investing in teacher training so that they can competently mediate the use of technology, maximizing its benefits without compromising educational objectives.

3.3 The Educator's Role and AI in Foreign Language Teaching

The results reveal that, for the interviewed students, human interaction is irreplaceable in foreign language teaching. The presence of the instructor, as a mediator of knowledge, is viewed as essential, particularly in the specific context of Macau, where linguistic immersion does not occur during the process of learning Portuguese. Human interaction extends beyond the mere transmission of linguistic content; it also encompasses the ability to interpret cultural, social, and emotional aspects—something that AI, despite its technical efficiency, cannot replicate.

Although students recognize the advantages of AI as a complementary tool, there is unanimous agreement that it cannot replace the role of the teacher. AI is seen as a supportive resource, capable of enhancing the efficiency and personalization of learning, but it lacks essential human competencies. One student emphasized: "I believe AI can be an auxiliary tool, but it cannot replace the human element in teaching."

Regarding assessment, divergent opinions emerged among the students. For some, AI offers objectivity and clarity, being perceived as a fairer means of evaluating performance: "Yes, I think AI assessment is fairer." Conversely, others point to the lack of empathy and sensitivity as a limitation: "No, because AI lacks humanity; I feel that being evaluated by a machine does not respect me." This polarization reflects one of the key discussions in the literature, which suggests combining automated assessment with human appraisal. For instance, while AI can provide immediate feedback on technical aspects such as grammar and pronunciation, teachers can evaluate more subjective dimensions like creativity and intercultural communication (Klimova et al., 2024).

Classroom observations reinforce the teacher's relevance in interpreting and contextualizing cultural content, particularly on topics involving linguistic and cultural differences specific to Portuguese-speaking countries. For example, it was noted that students who relied solely on automatic translations struggled to comprehend implicit meanings in texts about cultural habits in countries like Portugal, Brazil, and Mozambique. One student remarked: "The teacher helps us understand not only the language but also how people think and express themselves in Portuguese-speaking countries." This testimony underscores the central role of the teacher in promoting intercultural understanding—an achievement that AI alone cannot attain.

The integration of AI in foreign language teaching presents a valuable opportunity to transform learning, making it more accessible, efficient, and personalized. However, for this integration to be truly effective, it is crucial to adopt an approach that goes beyond the instrumental use of technology, fostering the development of critical, creative citizens capable of ethically navigating the digital ecosystem. Educational institutions, by balancing technological innovation with conventional pedagogical practices, will be better prepared to respond to the challenges and opportunities of the digital age.

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4. DISCUSSION

The analysis highlights that the integration of AI in the teaching of Portuguese as a Foreign Language (PFL) holds a transformative potential for pedagogical practices, particularly by offering advantages such as personalization and efficiency in learning. Previous studies support that AI tools, such as chatbots and intelligent tutors, enhance vocabulary retention, student engagement, and language proficiency (Son et al., 2023). These innovations align with the growing need to address students' personalized demands and expand access to educational resources. However, many educators still harbor reservations regarding the replacement of the human role in the educational process, underscoring the need for balance and critical reflection in the use of such technologies (Hong, 2023).

Despite technological advancements, the role of the teacher remains indispensable. Teacher mediation is crucial for interpreting linguistic and cultural content, promoting intercultural competencies, and ensuring authentic, humanized learning facilitated by the instructor. This mediation transcends mere knowledge transmission, encompassing social and emotional aspects central to language teaching, such as understanding and empathy (Nield, 2004).

The data suggest that students frequently rely on AI for tasks such as translation and text generation but encounter difficulties in integrating this knowledge into communicative contexts. Reports indicate that AI-generated texts are often generic and lack depth and reflective personalization. While AI can provide immediate feedback and tailor learning experiences, issues such as a lack of empathy and the inability to culturally contextualize generated content limit its applicability. The combination of technology and human interaction enables language teaching to be both efficient and enriching, enhancing students' linguistic and intercultural competencies.

Digital literacy emerges as a central element for the effective and ethical use of AI in education. As the UNESCO report (2023) advocates, improving digital skills involves four main aspects: understanding how technology can support teaching; using technology to solve teaching problems; redesigning technology-supported teaching activities; and developing new teaching models. Equipping educators and learners to use AI tools critically and ethically is fundamental to minimizing risks such as technological dependency and superficiality in produced work.

The practical implications for PLE pedagogy are significant for personalizing the learning process, adapting content and activities to the specific needs of students. In this regard, the active participation of students in the process of using and evaluating AI is essential to promote confidence and autonomy, contributing to increased student trust in AI and the integration of this technology into the learning process. To this end, tools such as ChatGPT should be incorporated into practices that encourage critical analysis, the creation of authentic content, and an understanding of the ethical and cultural implications of these technologies (Ferreira & Loureiro, 2024).

The findings reinforce the need for a complementary approach in PFL teaching, where AI enriches learning without replacing human interaction. In contexts such as Macau, where linguistic immersion is limited, the teacher's role in cultural contextualization is pivotal. One interviewed student emphasized: "Human interaction is undoubtedly important and cannot be replaced by AI. Thinking is the essence of being human, but AI is just a set of data, without thoughts or emotions." This testimony reflects the limitations of AI in capturing cultural and emotional nuances, areas where human intervention remains irreplaceable.

Although AI can provide immediate and individualized feedback, issues such as a lack of empathy and the inability to culturally contextualize generated content limit its applicability. The combination of technology and human interaction allows language teaching to be both efficient and fruitful, enhancing students' linguistic and intercultural competencies.

CONCLUSION

The focus of this study was primarily on the perspective of Chinese learners, complemented by the authors' observations as educators. Future research may benefit from concentrating on the perceptions and challenges faced by language instructors, as well as the language policies adopted by institutions, to gain a more comprehensive understanding of these themes. Through a multifaceted analysis, considering the different stakeholders involved, it will be possible to identify more accurately the main opportunities and challenges of integrating AI into language education.

In general, students acknowledge the frequent use of these tools and express positive perceptions regarding the contribution of AI; however, they also raise pertinent ethical and pedagogical concerns. Students' reflections underscore the importance of a responsible integration of AI in language learning, emphasizing proper guidance for learners, the promotion of authentic human interaction, and the balance between established methods and technological innovations.

This study presents limitations that should not be overlooked. Data were collected from a sample limited to students from a single institution, which may restrict the generalizability of the results. Additionally, the positive predisposition of participants towards AI may reflect a generational or cultural bias, given that they are young individuals exposed to digital technologies. Future studies could include perceptions from teachers and quantitative approaches to complement the qualitative findings presented.

Despite these limitations, the results provide insights into students' perspectives and the possibilities of integrating AI into language teaching in a balanced and effective manner. This process requires a commitment from institutions to empower both students and teachers, fostering pedagogical practices that combine technological innovation with human interaction.

The ethical and pedagogical challenges of AI in education are complex and multifaceted. Data privacy is a central concern, as many AI tools collect personal information that may be used for purposes unknown to users. The risk of algorithmic bias is also a relevant issue; if algorithms produce results that are systematically inaccurate, biased, or unjust, this may exacerbate learning difficulties and inequalities, necessitating heightened caution in their use and regulation. Conversely, an excessive reliance on AI could undermine human interaction, essential for developing social and cultural competencies in educational processes. Practical implications for teachers and institutions include the need for continuous training in emerging technologies and the adaptation of curricula to integrate AI ethically

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and effectively. In this regard, fostering ongoing dialogue about these challenges is crucial to ensure a responsible and pedagogical implementation of AI in education.

As the era of generative intelligence consolidates, the imbalance between the use of these resources by language learners and the still-limited integration of such technologies by educational institutions becomes increasingly evident. On one hand, students are demonstrating greater enthusiasm and proficiency in utilizing chatbots, virtual assistants, and other AI applications for tasks such as translation and conversational practice, benefiting from the convenience and speed these tools provide. On the other hand, many educational institutions appear reluctant to fully embrace AI in their pedagogical practices. Concerns regarding the reliability and accuracy of these tools, ethical issues related to authorship and plagiarism, difficulties in detecting and evaluating AI-generated content, and uncertainties regarding the role of the teacher as a mediator in this type of education are some factors that may contribute to this resistance.

This imbalance between widespread student use and timid institutional integration may create discomfort or dissonance. Students may feel frustrated by the lack of equivalent support and utilization of AI in their formal learning environments, creating a gap between their experiences inside and outside the classroom. Educational curricula, study plans, and academic programs do not incorporate AI mechanisms as swiftly, which may lead to a sense of obsolescence in higher education courses, as if the methods and pedagogical approaches are not aligned with the demands of contemporary times, particularly concerning new ways of acquiring and producing knowledge and the technological innovations widely used among students and society at large.

In the realm of foreign language education in China, there appear to be varying speeds in the integration of AI, with some higher education institutions adopting it more cautiously and with significant reservations, while others are more agile and proactive in embracing these technologies (Amaro & Pires, 2024; Liu, 2023; Qiao & Zhao, 2023; Yuan, 2024).

To balance this situation, it is important to foster dialogue and cooperation among the various educational stakeholders to understand the potential of AI, which requires teacher training, curriculum updates, and close collaboration between educators and learners in exploring the possibilities offered by emerging technologies. In foreign language education, as in many aspects of societal experience, the dynamic interplay in which the artificial becomes natural and the natural becomes artificial gives rise to a distinctive interlligence that stands as a hallmark of the times we live in.

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AUTHOR'S CONTRIBUTION

Conceptualization, M.P.; data curation, M.P. and V.A.; formal analysis, M.P. and V.A.; funding acquisition, M.P.; investigation, M.P. and V.A.; methodology, M.P. and V.A.; project administration, M.P. and V.A.; resources, M.P. and V.A.; software, M.P. and V.A.; supervision, M.P. and V.A.; validation, M.P. and V.A.; visualization, M.P. and V.A.; writing-original draft, M.P.; writing-review and editing, V.A.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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