International Journal on Culture, History, and Religion
https://ijchr.net | eISSN: 3028-1318
Volume 7 Special Issue 3 | doi: https://doi.org/10.63931/ijchr.v7iSI3.390

Article

Exploring the Integration of Artificial Intelligence in Filipino Language Education: Enhancing Teaching Practices and Learning Outcomes in Higher Education Institutions

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Abstract

This study investigates the integration of Artificial Intelligence (AI) in Filipino language instruction in higher education, focusing on the perspectives of educators, the teaching strategies they employ, and the engagement of students in AI-assisted classrooms. Guided by a phenomenological qualitative approach, the research gathered data from Filipino language teachers, students, and administrators in selected higher education institutions through semi-structured interviews, classroom observations, and focus group discussions. The use of thematic analysis revealed several key insights. First, AI was found to enhance instructional efficiency by streamlining lesson delivery, automating assessment, and providing instant feedback that allows educators to better monitor student progress. Second, it facilitates personalized learning through adaptive platforms and interactive tools, giving students opportunities to learn at their own pace while fostering higher levels of motivation and participation. Respondents noted that gamified activities and AI-driven translations made complex texts, such as classical Filipino literature, more accessible. However, challenges remain. Limited AI training for teachers, technological constraints within institutions, and the scarcity of AI applications specifically designed for Filipino language education hinder widespread adoption. Moreover, educators emphasized the irreplaceable role of human instruction, particularly in guiding students to appreciate cultural and linguistic depth that AI cannot fully replicate. The findings highlight the importance of institutional support, equitable access to technological resources, and ethical integration of AI to ensure inclusivity. Overall, the study underscores AI's potential as a complementary tool that, when thoughtfully applied, can strengthen pedagogy, promote cultural preservation, and support sustainable innovation in Filipino language education.

Keywords: *Artificial Intelligence, Teaching Practices, Filipino Language, Learning Outcomes, Higher Education Institutions*

Suggested citation:

Jaramillo, M., Baquiran, C., Madayag, C., Alih, C., Manera, A., & Ramones, J. (2025). Exploring the Integration of Artificial Intelligence in Filipino Language Education: Enhancing Teaching Practices and Learning Outcomes in Higher Education Institutions. *International Journal on Culture, History, and Religion, 7*(SI3), 416-431 https://doi.org/10.63931/ijchr.v7iSI3.390

Introduction

The rapid advancement of Artificial Intelligence (AI) has transformed education globally, reshaping teaching methodologies, student engagement, and learning outcomes. In language education, AI has provided tools that enable adaptive assessments, personalized learning, and real-time feedback, allowing teachers to address diverse student needs more effectively. For higher education, particularly in language instruction, these innovations have created opportunities to augment traditional pedagogy with technology-driven approaches. Filipino language education, which has long been rooted in classroom-based instruction and cultural preservation, is now beginning to explore AI-driven applications such as intelligent tutoring systems, chatbots for conversational practice, automated essay scoring, and translation technologies. These tools support language acquisition and increase accessibility, engagement, and inclusiveness.

However, while AI has been widely studied in the context of English and other global languages, its integration into Filipino language instruction remains underexplored. The Filipino language's unique cultural, linguistic, and contextual dimensions require careful consideration to ensure that AI enhances rather than diminishes its richness. Educators, therefore, play a central role in navigating the opportunities and challenges AI poses. Their experiences, strategies, and perceptions are crucial for understanding how technology can be harmonized with pedagogical traditions and cultural contexts. This study examines how AI influences pedagogy, student engagement, and instructional practices in Filipino language education in higher education, while also identifying challenges, opportunities, and ethical implications.

AI has emerged as a transformative force in language education, offering adaptive learning systems, automated assessments, and intelligent tutoring. Zawacki-Richter et al. (2019) systematically reviewed AI in higher education, emphasizing its potential for personalization and efficiency. Similarly, Chen, Chen, and Lin (2020) highlighted the role of AI in providing real-time feedback and individualized learning paths. Studies on AI-powered platforms such as Duolingo and Grammarly significantly improve student engagement and comprehension (Li et al., 2021; Fryer & Carpenter, 2006). These platforms employ natural language processing (NLP) and machine learning algorithms to provide corrective feedback, which supports learner autonomy (Heil et al., 2016). While AI offers many advantages, educators often face challenges in its integration. Forlin and Chambers (2011) found that inadequate training and limited AI literacy hinder teachers' confidence in adopting new technologies. Sharma, Loreman, and Forlin (2012) further emphasized that

professional development is crucial for meaningful AI integration in pedagogy. In the Philippine context, Reyes (2020) and Cabigon (2021) highlighted how the digital divide and uneven access to technological infrastructure limit AI adoption in schools.

Language teaching is not only technical but also cultural. McCarthy (2022) argued that AI often fails to capture cultural nuances, raising questions about authenticity in literature and idiom translation. Tupas (2015) and Gonzalez (1998) stressed that Filipino language instruction is deeply tied to identity formation, cultural preservation, and national development. Without culturally responsive design, AI may risk oversimplifying or misrepresenting these elements. Effective AI integration also requires institutional and community support. Ouyang and Jiao (2021) noted that AI must be aligned with established pedagogy to be sustainable. In addition, Datar (2019) emphasized that contextualizing literature and language instruction in the Philippines requires culturally grounded approaches. Villanueva and Llego (2021) highlighted that collaboration between educators, industry, and policymakers can optimize technology use in language education, ensuring inclusivity and sustainability.

Although there is growing scholarship on AI in education, most studies focus on English or widely spoken global languages (Zawacki-Richter et al., 2019; Chen et al., 2020; Li et al., 2021). Limited research has been conducted on AI integration in Filipino language instruction, especially within higher education. Current literature also highlights technical barriers such as infrastructure limitations and a lack of teacher training (Reyes, 2020; Forlin & Chambers, 2011). However, few studies examine AI's cultural and pedagogical implications in teaching the Filipino language and literature. Moreover, while community engagement and institutional support are known to be important in sustaining educational innovations (Villanueva & Llego, 2021), their role in AI-driven Filipino language education remains underexplored.

This study addresses these gaps by examining the lived experiences of educators, students, and administrators in higher education institutions. It investigates how AI tools affect pedagogy and engagement and how cultural authenticity and linguistic preservation can be maintained in AI-assisted instruction. It contributes to the discourse on technology-enhanced and culturally responsive pedagogy in the Philippine context.

Research Objectives

1. To explore the experiences and perspectives of educators regarding integrating artificial intelligence in Filipino language instruction in higher education.

2. To examine how AI-driven tools influence teaching strategies and student engagement in Filipino language learning from the viewpoints of both teachers and students.
3. To identify the challenges, opportunities, and pedagogical implications of AI integration in Filipino language education based on qualitative insights from higher education stakeholders.

Research Methodology

This qualitative, phenomenological study explored teachers' experiences with AI integration in Filipino language instruction at the higher education level. It examined how AI-powered tools influence teaching methods, student engagement, and pedagogical challenges and opportunities.

Conducted in select institutions using AI-driven learning tools, the study involved 10 to 15 purposively selected participants from each university, namely QSU, CSU, DMMMSU, and MSU, including teachers, students, and administrators. Data were gathered through semi-structured interviews, FGDs, and document analysis of reports, syllabi, and AI-based teaching materials. Thematic analysis identified key patterns in pedagogical shifts, engagement, and institutional challenges. Ethical protocols ensured informed consent, anonymity, and data security. The study provides valuable insights into AI's role, challenges, and prospects in Filipino language education.

Results and Findings

Educators' Perceptions as Role in Pedagogy, the Difficulties They Encounter, and the Opportunities AI Presents in Language Instruction

Integrating Artificial Intelligence (AI) in Filipino language instruction reshapes higher education teaching and learning practices by enhancing efficiency, personalizing instruction, and fostering interactive engagement. Educators observed that AI streamlined their workload through automated essay scoring, grammar-checking, and speech-recognition tools, allowing them to devote more time to higher-order teaching tasks such as critical thinking, creative writing, and cultural discussions. At the same time, AI created opportunities for personalized learning by providing adaptive feedback and enabling students to progress at their own pace, thereby increasing participation and confidence in grammar, vocabulary, and oral communication. However, while these innovations improved instructional effectiveness, participants also identified persistent barriers to effective adoption.

Teachers cited limited AI training, resistance to change, and technological constraints, while students noted unequal access to reliable internet and devices, reflecting the continuing impact of the digital divide. Moreover, many educators emphasized that AI cannot replicate the cultural richness and interpretive depth of the Filipino language and literature, underscoring the need to balance human instruction and technological support. These insights highlight AI's dual role as both an enabler and a challenge: it empowers teachers and students by making instruction more efficient and interactive, yet demands institutional investment, professional development, and cultural sensitivity to ensure meaningful and equitable integration.

AI as an Instrument to Improve Instructional Effectiveness

One of the most common insights from participants was that AI significantly streamlined teaching processes and improved instructional efficiency in Filipino language education. It allowed teachers to focus on higher-order teaching tasks, such as critical thinking exercises, creative writing, and cultural discussions.

Participant 5 shared: *AI has been a great help in reducing our workload. With automated essay scoring and grammar-checking tools, I can now spend more time guiding students on how to express their thoughts in Filipino rather than spending hours correcting their papers manually.*

Participant 2 also underlined the aid given by AI-supported speech recognition and pronunciation analysis in improving students' spoken Filipino:

Students struggling with pronunciation can now use the AI tool that provides immediate feedback. It benefits those not native to the Philippines but who practice more; however, they feel awkward inside the class.

Despite these benefits, some educators continue to be wary and claim that even though AI offers efficiency and increases productivity, it cannot substitute human instruction's depth, especially for the cultural and contextual meaning of the Filipino language.

Problems in AI Implementation and Adoption

Despite the many benefits of AI, its implementation in Filipino language instruction has not been without problems. Teachers encountered several problems, such as a lack of training, technological constraints, and faculty members' resistance to adopting AI.

Participant 3 highlighted the problem of lacking training in the training session; many of us as educators did not know how to incorporate AI in teaching.

Participant 4 complained about access to technology:

Not all students can access reliable internet or the devices needed to utilize AI tools fully. It creates a gap in learning opportunities, where students from more privileged backgrounds benefit more from AI-enhanced learning than those without resources.

These challenges would require professional development programs for teachers to use AI effectively in teaching and institutional policies that ensure access to AI for all students equitably.

AI in Personalized and Interactive Learning

Educators also saw AI as a tool for personalizing learning experiences and creating interactive, student-centered classrooms. Many AI-powered tools provide adaptive learning pathways, allowing students to progress at their own pace and receive customized feedback based on their strengths and weaknesses. This approach enhanced student engagement and fostered independent learning, particularly in Filipino grammar, vocabulary, and writing.

Participant 8 explained that AI can help students practice grammar, bu*t cannot replace the human element in teaching literature and cultural appreciation. The richness of the Filipino language comes from real-life interactions, debates, and storytelling, which AI cannot fully replicate.*

This view posits that AI should be used as a complementary rather than a primary teaching method, ensuring that Filipino language education remains technologically advanced and culturally grounded. This study's results indicate that, from the perspective of educators, AI is valuable in enhancing instruction efficiency, personalizing learning, and engaging students better when teaching Filipino languages. However, the lack of training, problems with accessibility, and the inability of AI to capture depth in culture reflect the need to balance the use of AI carefully.

AI-Driven Tools Influence Teaching Strategies and Student Engagement in Filipino Language Learning

Integrating Artificial Intelligence (AI) into Filipino language instruction is reshaping teaching strategies and student learning experiences, offering opportunities for innovation while presenting notable challenges. Teachers reported that AI-driven tools streamlined lesson planning, automated assessments, and provided instant feedback, allowing them to focus on higher-order tasks such as critical thinking, creative writing, and discourse analysis. Students, in turn, described AI applications as motivating and engaging, particularly through gamified learning, real-time pronunciation correction, and adaptive exercises that created more personalized and interactive pathways for language acquisition. These tools improved efficiency and

fostered enthusiasm and self-paced learning, making Filipino more accessible beyond the classroom. However, educators and students also highlighted persistent challenges, including the lack of AI platforms tailored explicitly for Filipino grammar and syntax, technical limitations in accurately processing cultural and linguistic nuances, and issues of digital inequity for underprivileged learners. Collectively, these findings underscore AI's dual role in Filipino language education: it supports innovative teaching and enhances learner motivation, but its effectiveness depends on institutional support, equitable access, and the development of culturally grounded AI tools to ensure that technological progress does not overshadow the linguistic and cultural depth of the Filipino language.

AI as a Support System for Innovative Teaching Strategies

Teachers reported that AI-driven tools changed their strategies for teaching: planning lessons efficiently, giving instant feedback, and teaching students differently. AI-enabled assessment tools help automate the processes for teachers so that they have more time for critical thinking, creative writing, and discourse analysis in Filipino.

Participant 8 shared how AI streamlined lesson delivery: *I spent hours manually checking my students' essays before using AI. Now, AI-powered writing assistants help provide instant grammar corrections, allowing me to focus on teaching deeper linguistic concepts and literary appreciation.*

Similarly, Participant 9 highlighted AI's efficiency in creating teaching materials: AI saves time by generating interactive quizzes, reading comprehension exercises, and vocabulary drills.

Such observations indicate that AI improves efficiency in teaching. At the same time, education must have the correct dose of traditional means, not to lose all the cultural significance the Filipino language possesses.

AI-Influenced Interaction and Motivation in Language Acquisition

Students said the AI-driven applications increased their interest and enthusiasm in learning Filipino. The interactive aspects of AI applications, like gamification, real-time pronunciation correction, and AI-driven language practice chatbots, promoted active engagement in the learning processes. Therefore, self-paced learning through AI was possible, easing the mastery of language and speaking it outside the class.

Participant 6 said that *AI gives me exercises tailored to my weaknesses. If I am prone to conjugating verbs, the AI recommends more activities to help improve it. It is like having a personal tutor available at any time.*

Participant 10 also reflected on how gamified AI applications improve motivation, such as using the Filipino language: Filipino language learning feels more engaging when AI turns lessons into challenges or quizzes with rewards. It does not feel like traditional classroom learning; it is fun and interactive.

Limitations and Challenges in AI-Assisted Instruction

Despite the benefits, several challenges in integrating AI for Filipino language learning were identified: technical limitations, the absence of AI tools designed explicitly for Filipino, and digital accessibility issues for students coming from underprivileged areas.

Many AI language tools are English-centered, making finding AI platforms that accurately process Filipino grammar, syntax, and cultural nuances difficult. Participant 7 pointed out the limitations of AI in handling complex Filipino linguistic structures: AI often struggles with Filipino verb affixes and contextual meanings. Sometimes, its translations or grammar corrections are inaccurate, which confuses students instead of helping them.

Participant 8 emphasized: *Some students cannot fully benefit from AI because they lack access to high-speed internet or updated devices.*

These challenges suggest that, although AI has great potential in Filipino language education, institutions must address accessibility gaps, develop culturally relevant AI tools, and establish guidelines on responsible AI use in academic settings.

Challenges, Opportunities, and Pedagogical Implications of AI Integration in Filipino Language Education

Integrating Artificial Intelligence (AI) in Filipino language instruction presents opportunities for pedagogical innovation and complex challenges that institutions must navigate. On one hand, AI-based tools offer real-time feedback, adaptive learning pathways, and interactive assessments that enable personalized and engaging learning experiences. Teachers and students alike observed that these applications improve efficiency, foster independent learning, and support greater student confidence in mastering Filipino grammar and vocabulary. On the other hand, the adoption of AI in many state universities is hindered by financial constraints, inadequate infrastructure, and faculty unpreparedness, with some educators fearing job displacement and the loss of human interaction in teaching. These institutional and technological barriers underscore the need for sustained funding, faculty training, and AI literacy programs to ensure equitable access to AI resources. Beyond logistical issues, ethical and cultural concerns also emerged, particularly regarding algorithmic

bias, data privacy, and AI-generated Filipino language content authenticity. Educators emphasized that while AI should support teaching, it must not replace the human dimension of instruction, especially in preserving Filipino's cultural and linguistic richness. These insights highlight that AI integration must be pursued carefully, balancing technological innovation with institutional readiness, ethical responsibility, and cultural sensitivity, to ensure that it enhances rather than diminishes the goals of Filipino language education.

Technological and Institutional Challenges in AI Adoption

As pointed out by stakeholders, one of the key challenges was institutional readiness for adopting AI, mainly among state universities with minimal funds, not having the best technical infrastructure, and faculty unpreparedness for such a revolution.

Participant 2 emphasized the financial constraints in acquiring AI-driven tools: AI has great potential, but many public universities cannot afford to invest in technology or provide adequate training for faculty.

Another challenge is that faculty do not want AI in the classrooms since they have no experience using the tools and are concerned about their jobs being displaced by AI. Other educators feel that AI may cause teachers' roles to decline, resulting in the loss of human touch while teaching languages.

Participant 3 mentioned that many teachers fear using *AI because they think it will replace their function. There is a need for proper training and reassurance that AI should assist human instructions, not replace them.*

Such hurdles mean that state universities should establish AI literacy programs, provide funding support for the adoption of technological infrastructures, and offer fair access to the utilization of AI-driven resources for learning.

AI as an Enabler of Pedagogical Innovation and Personalized Learning

While the challenges are apparent, many stakeholders see the potential of AI to enhance teaching methods and personalize learning in Filipino language education. AI-based tools offer real-time feedback, adaptive learning pathways, and interactive assessments, making it possible for students to interact with the language at their own pace.

Participant 4 described how AI-enabled personalized learning improved student engagement: AI can assess individual learning patterns and adjust the difficulty level of exercises. It helps students who struggle with Filipino grammar, allowing them to receive targeted lessons without feeling overwhelmed.

In addition, AI may promote independent learning, where the student will venture out of the classroom to learn more about the Filipino language.

Participant 6 said: *Students are more open to practicing Filipino when using AI-powered apps because it feels less intimidating than speaking in class. AI makes language learning more engaging and interactive.*

However, some educators cautioned that over-reliance on AI might reduce critical thinking and human interaction in language learning. There was a sense that balancing AI-driven learning with teacher-guided instruction was key to ensuring holistic language development.

The Need for Ethical and Culturally Responsive AI Integration

Another central theme that emerged was the ethical and cultural considerations in AI-assisted Filipino language education. Many educators expressed concerns about algorithmic bias, data privacy, and the cultural authenticity of AI-generated content.

P7 raised a concern regarding the bias in AI language models: AI tools are mainly trained on Western linguistic structures. When applied to Filipino, they sometimes fail to capture contextual meanings, idiomatic expressions, and cultural nuances.

P19: *We need clear policies on using and protecting student data when interacting with AI tools. Universities should ensure that the AI systems align with ethical standards and respect users' privacy.*

AI systems should be designed to support traditional teaching rather than replace it and must have a Filipino linguistic and cultural identity. AI can support teachers by automating assessments and enabling self-paced learning. However, it must be implemented carefully to avoid widening educational inequalities and diminishing the cultural essence of Filipino language instruction.

Discussion

Integrating Artificial Intelligence (AI) into Filipino language instruction demonstrates a significant shift in pedagogy and learning experiences in higher education. Educators perceived AI primarily as a support system that improves instructional efficiency, enabling them to shift from repetitive tasks to higher-order teaching activities. Automated essay scoring, grammar-checking tools, and speech recognition applications reduced their workload, giving them more time to guide students in critical thinking, creative writing, and cultural appreciation. These observations mirror findings by Chen, Chen, and Lin (2020), who noted that AI in education provides time-saving benefits by automating routine tasks, thus allowing

teachers to focus on deeper cognitive development. For Filipino language teachers, this efficiency created opportunities to reinforce linguistic competence and the interpretive and cultural dimensions of literature.

Despite these benefits, participants highlighted the difficulties of adopting AI in state universities. Teachers cited limited AI training, technical constraints, and resistance from faculty unfamiliar with the tools, while students pointed to unequal access to devices and stable internet connectivity. It reflects broader concerns in the Philippine context, where digital inequities often limit access to technology-enhanced learning (Reyes, 2020). Furthermore, some educators expressed fears that AI might displace traditional roles, reduce human interaction, and diminish the teacher's role as a cultural guide. These challenges underline the importance of faculty development programs, AI literacy training, and stronger institutional investment in infrastructure to ensure equitable adoption.

At the same time, AI was recognized as a powerful enabler of personalized and interactive learning. Participants described how AI-driven platforms provided adaptive feedback, gamified exercises, and self-paced learning opportunities that engaged students more actively in grammar, vocabulary, and pronunciation practice. By tailoring activities to individual weaknesses, AI fostered learner autonomy and confidence, particularly among students who found classroom participation intimidating. This finding aligns with Ouyang and Jiao (2021), who highlighted AI's ability to create student-centered learning environments. However, while AI was praised for enhancing engagement, educators cautioned against over-reliance, emphasizing that the richness of Filipino literature, its idioms, oral traditions, and cultural nuances, cannot be fully captured by algorithms.

Finally, participants underscored the need for ethical and culturally responsive AI integration. Concerns were raised about algorithmic bias, data privacy, and the dominance of Western linguistic structures in AI models, which often led to inaccurate translations and inadequate handling of Filipino grammar and syntax. It resonates with McCarthy (2022), who argued that AI systems are culturally limited when applied to non-Western languages. Teachers insisted that AI tools must complement human instruction, supporting rather than replacing it, while ensuring the preservation of Filipino cultural identity. Institutional policies on responsible AI use, equitable access, and data protection were critical in promoting sustainable adoption.

Overall, the discussion reveals that educators perceive AI as both an opportunity and a challenge in Filipino language instruction. On one hand, it streamlines instruction, enhances student engagement, and promotes personalized learning. On the other hand, its adoption is hindered by technical, institutional, and

cultural barriers. These findings emphasize the need for a balanced approach where AI supports innovative pedagogy but remains grounded in cultural authenticity, teacher guidance, and ethical responsibility. By addressing gaps in infrastructure, training, and inclusivity, higher education institutions can ensure that AI integration strengthens, rather than weakens, the mission of Filipino language education.

Conclusion

AI integration in Filipino language instruction offers opportunities and challenges in higher education. Educators recognize AI's potential to enhance efficiency, personalize learning, and engage students through interactive methods. However, barriers such as technological limitations, lack of faculty training, resistance to AI, and concerns over cultural authenticity necessitate a balanced approach.

AI-driven tools support lesson planning, automated assessment, and real-time feedback, allowing educators to focus on higher-order skills like critical thinking and creative writing. While AI motivates students through gamified and adaptive learning, overreliance may weaken critical thinking, reduce human interaction, and raise ethical concerns like data privacy and algorithmic bias. Institutional challenges, including limited funding and unequal access to digital resources, further hinder AI adoption.

A human-AI partnership is key, where AI complements rather than replaces traditional teaching. Universities must invest in AI training, develop language-specific tools, and enforce ethical guidelines. By addressing these challenges, AI can enhance instruction while preserving the cultural and linguistic integrity of the Filipino language.

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