Building an AI-Driven Spanish Curriculum to Enhance Reading, Writing Proficiency, and Critical Thinking Ability of Chinese University Students

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Abstract

This study develops and validates an AI-driven Spanish reading and writing curriculum aimed at enhancing Chinese university students' linguistic proficiency and critical thinking ability. Guided by the AI-Driven Learning (AIDL) model established in this research, the curriculum systematically integrates AI into pre-class, in-class, and post-class stages to promote personalized learning, multimodal engagement, and continuous feedback. The development of the curriculum involves expert review and content validation to ensure theoretical consistency and pedagogical feasibility. Five experts in Spanish language education and curriculum design evaluate the course objectives, content, methods, activities, and assessments. The results yield a high content validity index (S-CVI = .96), confirming the curriculum's coherence, clarity, and alignment with CEFR B1-level descriptors. The study demonstrates how AI can function as an instructional facilitator at the curriculum level, providing a structured framework for the integration of artificial intelligence in Spanish language education. These findings offer practical guidance for future curriculum innovation and AI-driven language pedagogy in higher education.

Keywords: AI-driven learning, Spanish as a foreign language, curriculum design, reading and writing competence, critical thinking ability

1. Introduction

Spanish ranks as the second most widely spoken language in the world, and it plays an important role in international communication, economic cooperation, and cultural exchange (García, 2021; Martínez & Marco, 2010). In China, with the increasingly close cooperation between China and Latin America, Spain and other Spanish-speaking countries, the importance of Spanish as a foreign language (SFL) teaching has continued to increase, and the number of Spanish majors offered by Chinese universities has increased significantly in the past 20 years (Vítores, 2023). However, compared with English education, which has developed over a longer history in China, Spanish remains a relatively young discipline in Chinese higher education, and it faces shortages in teaching resources as well as in pedagogical innovation (Luo, 2020).

In China, SFL education faces several persistent challenges. At the initial stage of learning, many learners find Spanish relatively accessible because its pronunciation system is straightforward and easy to master, allowing them to quickly build confidence in speaking and listening (Silva Valencia, 2022). However, as they progress to intermediate and advanced levels, they frequently struggle with reading and writing, particularly when working with argumentative and analytical texts that require higher levels of linguistic accuracy and reasoning (Zhang, 2024). In many universities, SFL instruction still relies heavily on textbook drills and the grammar–translation method, which limits opportunities for students to use Spanish in authentic communicative situations (Hong & Manuela, 2025). Furthermore, critical thinking ability (CTA), an essential competence for academic study and professional development, is often neglected in second language (L2) classrooms (Lailiyah & Wediyantoro, 2021). Therefore, although students may reach a basic level of linguistic proficiency, they often cannot use Spanish effectively to analyze, evaluate, or generate new ideas (Yan, 2025). This limits the growth of higher-order thinking and weakens their ability to apply the language in practical situations. (Shiqi & Ziying, 2023).

The rapid advancement of artificial intelligence (AI) provides new approaches to solving these problems

(Fountoulakis, 2024). AI has become a significant force in transforming education, especially in L2 learning (Seddik, 2025). It functions not only as a supportive tool but also actively participates in curriculum design and instruction (Kundu & Bej, 2025). Generative AI tools can support personalized learning, provide real-time feedback, and help teachers in making data-driven decisions (Rajak et al., 2024; Sun et al., 2025; Tajik, 2025). In L2 teaching, AI can provide students with more opportunities to engage with authentic language materials, offer quick feedback to enhance writing, and guide students toward a deeper understanding of texts through adaptive tasks (Pérez-Núñez, 2024). Systematic integration of AI into Spanish education can help overcome the limitations of traditional teaching methods and promote more meaningful learning outcomes (Singh et al., 2024).

Even so, most research on AI and L2 curriculum development has focused on English as a Foreign Language (EFL) education (Law, 2024). There is less research on Spanish, even though it is the second most spoken language in the world (Huang & Cassany, 2025). Many studies have examined the use of AI tools in single classroom activities, but few have proposed a comprehensive curriculum framework that integrates AI tools across the whole instructional stages (Li et al., 2024). In addition, empirical studies in Chinese higher education that evaluate the effects of such curricula remain limited.

To address this gap, the present study develops an AI-driven Spanish curriculum for Chinese university students. The curriculum framework is based on the AI-driven learning (AIDL) model, which emphasizes systematic instructional integration, learner-centered personalization, data-driven analysis, and real-time feedback. By incorporating AIDL into SFL education in China, this study aims to enhance students' Spanish reading and writing proficiency as well as their critical thinking ability, while creating a more dynamic and personalized learning environment.

2. Theoretical Framework

The theoretical foundation of this study is the AIDL model, which is developed from the synthesis of related literature on AI in L2 education, as shown in Figure 1 (Bozkurt, 2023; Gibson et al., 2023; Islam et al., 2025; Kundu & Bej, 2025; Sun et al., 2025; Tajik, 2025; Xie, 2023; Younas et al., 2025). This AIDL model provides a conceptual explanation of how AI tools can support teaching and learning in an integrated way (Holmes et al., 2019). In AIDL, AI serves as an instructional facilitator that supports all stages of learning from course design to assessment, by providing adaptive content, continuous real-time feedback, and data-based learning insight (Gibson et al., 2023; Islam et al., 2025). In this way, AI becomes a central component of pedagogy that connects instructional design, teaching, learning activities, and evaluation within a coherent process (Das et al., 2023). In essence, AIDL highlights four main traits: systematic instructional integration, learner-centered personalization, data-driven learning analytics, and real-time feedback (Sajja et al., 2024; Liu et al., 2023), which collectively establish a dynamic environment in which instruction is personalized, evidence-based, and continuously improved (Er-Radi et al., 2023).

Figure 1. AI-Driven Learning Model

Note. This figure illustrates the AIDL model developed in this study. Data sourced from the organization of this study.

The development of the AIDL model draws inspiration from the IMI+ model formulated by Muñoz-Basols et al. (2023), while integrating theoretical insights from Vygotsky's Zone of Proximal Development and scaffolding learning, Krashen's Input Hypothesis, and Swain's Output Hypothesis (Krashen, 1982; Shin & Jung, 2022; Shooshtari & Mir 2014; Swain, 1993; Swain & Lapkin, 1995; Vygotsky, 1962). These frameworks collectively inform the model's design, emphasizing interactive mediation, comprehensible input, and output-based reflection within an AI-driven learning cycle.

The AIDL model structures teaching and learning into a continuous three-stage cycle: pre-class preparation and AI integration, in-class engagement and AI scaffolding, and post-class reflection and AI assessment (Bozkurt, 2023; Muñoz-Basols & Gutiérrez, 2025; Sun et al., 2025). In the first stage, AI supports teachers in analyzing learners' prior knowledge, selecting or generating appropriate learning materials, and designing personalized preview tasks that activate learners' background knowledge and connect upcoming lessons to learners' proficiency levels (Muñoz-Basols et al., 2023; Sajja et al., 2024). The second stage focuses on classroom interaction, where AI acts as a scaffolding agent through providing multimodal input, adaptive questioning, and instant feedback on reading and writing tasks (Cai et al., 2024; Lantolf & Thorne, 2006; Zhuang et al., 2025). This stage transforms classroom work from one-way delivery to interactive meaning construction (Ed-dali, 2024). In the final stage, AI extends learning beyond the classroom through AI-generated formative quizzes, personalized feedback on learners' tasks, and reflection tasks that ask learners to monitor their learning and set new learning goals (Khine, 2024; Mullah & Jayachandran, 2025). Feedback collected at this stage is used in the next cycle of design and instruction in a loop of improvement (Urbaite, 2025).

Guided by this framework, the AI-driven Spanish curriculum developed in this research applies the principles of AIDL through a set of integrated teaching strategies. At the planning level, AI is used for designing the course syllabus and class materials to ensure that content difficulty matches learners' profiles (Chen et al., 2024; Lee & Kwon, 2024). During instruction, AI tools provide multimodal learning resources, interactive scaffolding, and peer-AI writing feedback to promote both linguistic proficiency and critical thinking ability (Escalante et al., 2023; Hwang et al., 2023). After class, AI facilitates reflective learning and self-regulation by providing individualized feedback, personalized summaries, and adaptive follow-up activities (Khasawneh, 2024; Suriano et al., 2025). By connecting these components within a cyclical structure, the AIDL model transforms teaching into an iterative and adaptive process that addresses the limitations of traditional SFL instruction (Muñoz-Basols & Gutiérrez, 2025). It provides a coherent framework through which reading, writing, and critical thinking ability can develop in a dynamic, data-informed, and student-centered learning environment (Gibson et al., 2023; Sun et al., 2025).

3. Methodology

This study aims to enhance Chinese university students' Spanish reading, writing proficiency, and critical thinking ability through the implementation of an AI-driven Spanish curriculum based on the AIDL model. The research is conducted in two main phases. The first phase involves a comprehensive review of relevant literature on AIDL and its use in L2 education. This phase provides the theoretical and empirical foundation for developing the AI-driven curriculum framework. The second phase focuses on designing and developing the course syllabus and lesson plans, aligned with the principles of the AIDL model and the capacity indicators for Spanish reading and writing, as well as CTA. In this phase, learning objectives, instructional sequences, teaching materials, and assessment strategies are systematically organized to ensure the integration of AI tools at all stages of instruction. Together, these two phases aim to establish a theoretically grounded and practically applicable model for integrating AI into Spanish language education within the Chinese higher education context.

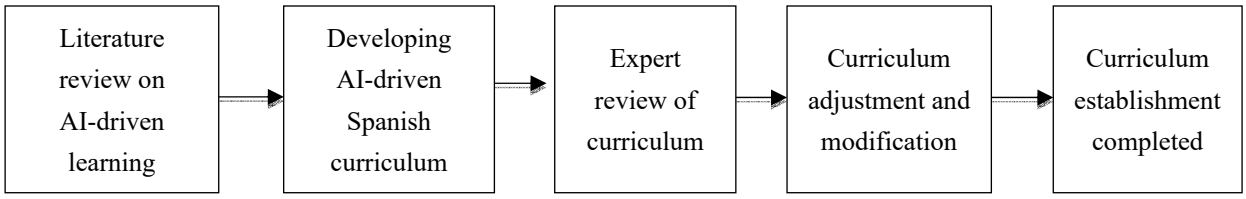

Figure 2. Research Framework AI-Driven Spanish Curriculum Development

3.1 Curriculum Design Based on AIDL

This study applies the AIDL model as the pedagogical foundation for designing a Spanish reading and writing curriculum for Chinese university students majoring in Spanish. The curriculum aims to enhance SFL students' linguistic proficiency and critical thinking ability through systematic integration of AI tools across all stages of class. The curriculum consists of five teaching units implemented over a 14-week semester, 2 lessons per week, totaling 28 lessons equally divided between reading and writing. Guided by the AIDL model, the course is organized into a continuous three-stage learning cycle: pre-class preparation and AI integration, in-class engagement and AI scaffolding, and post-class reflection and AI assessment.

3.2 Experts' Review of the Course Design

To ensure the academic rigor and practical feasibility of the AI-driven Spanish curriculum, an experts' review is conducted by five experts in Spanish language education and curriculum design (He & Chen, 2025). These experts examine the curriculum objectives, teaching content, instructional strategies, and assessment alignment to verify consistency with the AIDL framework and CEFR standards. Among them, four are associate professors with doctoral degrees in curriculum development or Spanish language education, each possessing 12-27 years of teaching experience. The fifth is a lecturer with a doctoral degree and officially certified DELE examiner, with 10 years of experience, as shown in Table 1.

Table 1. Background of Experts Validated the Curriculum and Course Design

Experts	Education	Profesional Background	Professional Title	Experience (years)	Working Organization
A	Ph.D.	Spanish curriculum development	Associate professor	27	University in Spain
B	Ph.D.	Curriculum development	Associate professor	25	Normal university in China
C	Ph.D.	Spanish language education	Associate professor	20	University in Cuba
D	Ph.D.	Spanish language education	Associate professor	12	University in China
E	Ph.D.	Spanish language education, DELE official examiner	Lecturer	10	University in China

3.3 Experts' Evaluation of Course Content Design

Table 2. Overview of Experts' Evaluations of the Curriculum and Course Design

Contents	Experts' Opinion			I-CVI
	Agree	Need Revise	Disagree	
Learning Objectives	5			1
Teaching Contents	5			1
Teaching Methods	5			1
Activities	5			1
Formative Assessment	5			1
Unit 1	5			1
Unit 2	5			1
Unit 3	4	1		.80
Unit 4	5			1
Unit 5	4	1		.80
S-CVI		.96		

Five experts evaluate the AI-driven Spanish reading and writing curriculum in terms of its learning objectives, teaching content, methods, activities, formative assessment, and unit design (see Table 2) (Lakhe, 2025). To assess the level of agreement among experts, both the Item-level Content Validity Index (I-CVI) and the Scale-level

Content Validity Index (S-CVI) are calculated following the procedures of Polit and Beck (2006). The results show that I-CVI values range from .80 to 1.00, indicating strong agreement on the curriculum's relevance, clarity, and alignment with CEFR B1 descriptors and the AI-driven learning framework. The S-CVI is .96, reflecting excellent overall content validity. Minor adjustments are recommended for Unit 3 and Unit 5 (I-CVI = .80), where experts suggest slightly lowering the difficulty of Lessons 14 and 25. Overall, the experts affirm the curriculum's coherence, innovation, and feasibility for classroom use. All suggested revisions are incorporated into the final version to enhance its validity and pedagogical effectiveness.

4. Results

4.1 The Objectives of the AI-Driven Spanish Curriculum

Table 3. Learning Objectives of the AI-Driven Curriculum

Core Competences		Objectives
Spanish Reading Proficiency	R1	Students can identify main ideas and support details in extended Spanish texts on academic, cultural, and social topics.
	R2	Students can recognize logical relations, temporal markers, and cohesive devices used in authentic Spanish discourse.
	R3	Students can infer implied meanings and analyze rhetorical structures in narrative and descriptive Spanish passages.
	R4	Students can interpret the author's attitude and viewpoint, and summarize key information from news articles, essays, or short stories in Spanish.
	R5	Students can recognize and understand how Spanish narratives and descriptive essays are structured, including the use of rhetorical techniques to organize ideas and enhance expression.
Spanish Writing Proficiency	W1	Students can compose coherent Spanish descriptive and argumentative texts related to campus life, culture, or current issues.
	W2	Students can use appropriate Spanish discourse markers, tenses, and cohesive devices to ensure textual clarity.
	W3	Students can express personal opinions and reflections in Spanish with logical organization and supporting details.
	W4	Students can revise their Spanish writing to improve coherence, cohesion, and linguistic accuracy based on AI feedback.
	W5	Students can revise and edit Spanish drafts to improve logical flow, connections between ideas, and language accuracy, enabling them to produce well-organized and sufficiently accurate texts on familiar subjects.
Critical Thinking Ability	C1	Students can analyze Spanish texts to identify key ideas, logical relations, and rhetorical strategies.
	C2	Students can interpret implicit meanings, author intentions, and cultural perspectives expressed in Spanish.
	C3	Students can evaluate the credibility and strength of arguments in Spanish-language materials from academic and media sources.
	C4	Students can reason effectively to construct well-structured Spanish arguments supported by evidence.
	C5	Students can apply evidence and examples appropriately to justify opinions in Spanish writing and discussions.
	C6	Students can reflect on their reasoning processes in Spanish, revising their ideas for clarity and coherence.
	C7	Students can compare cultural perspectives between Spanish-speaking contexts and their own culture, enhancing intercultural understanding and reflective judgment.

The curriculum aims to improve students' Spanish reading, writing, and critical thinking skills through an AI-driven learning approach aligned with the AIDL model. The learning objectives are based on the CEFR B1 descriptors for reading and writing (Council of Europe, 2020; Instituto Cervantes, 2006) and the seven-dimensional model of CTA validated by Li and Liu (2024). These frameworks ensure the objectives are internationally benchmarked and pedagogically measurable. The curriculum seeks to enable students to read critically, write coherently, and think analytically in Spanish, combining linguistic skills with higher-order reasoning. A summary of the curriculum objectives is provided in Table 3.

4.2 Applying the AIDL to Course Units of the Spanish Curriculum

Building on the established course objectives, the curriculum applies the AIDL framework to the content design, pedagogy, teaching activities, and assessment.

4.2.1 Unit Content

The content of the AI-driven Spanish reading and writing curriculum is designed in accordance with the Plan Curricular del Instituto Cervantes (B1 level) (Instituto Cervantes, 2006) and the CEFR (Council of Europe, 2020), ensuring alignment with internationally recognized SFL learning standards. The course comprises five thematic units that guide students from A2 to B1 proficiency through progressively complex communicative and cognitive tasks that integrate reading, writing, and critical thinking.

Table 4. Teaching Design for the AI-Driven Spanish Curriculum

Units	Objectives	Teaching Methods	Activities	Assesments	Class Length (Lessons)
Unit 1: Campus life and personal narratives	R1, R2, W1, W2, C1	Pre-class preparation and AI integration. In-class engagement and AI scaffolding. Post-class reflection and AI assessment.	Reading analysis; short narrative writing; group discussion; AI feedback	AI quizzes, short narrative writing with feedback	4
Unit 2: Experiences and storytelling	R2, R3, W2, W3, C1, C2, C4		Extended narrative reading; storytelling writing; collaborative analysis	AI quizzes, storytelling drafts with peer-AI feedback	4
Unit 3: Social media and youth culture	R3, R4, W3, W4, C2, C3, C4		Reading argumentative texts; opinion writing; debates; AI feedback	AI quizzes, opinion essays with peer-AI feedback	6
Unit 4: Health, education, and society	R3, R5, W4, W5, C2, C3, C5		Extended argumentative reading; essay writing; source evaluation; AI feedback	AI quizzes; extended essays; source evaluation mini-tasks	6
Unit 5: Cross-cultural communication and identity	R4, R5, W4, W5, C6, C7		Comparative reading; reflective writing; intercultural analysis; AI feedback	AI quizzes, comparative and reflective essay writing	8

Unit 1: Campus Life and Personal Narratives. This unit helps students strengthen A2 level foundations through familiar topics like daily routines and campus life. Learners read short narrative and descriptive texts and learn to write simple diaries and letters. They practice using basic time markers and cohesive devices to connect their ideas.

Unit 2: Experiences and Storytelling. Building on earlier narrative practice, this unit focuses on retelling travel experiences, festivals, and other memorable events. Students learn to describe experiences in detail, organize events logically, and develop longer stories. These skills support their ability to produce writing at the discourse level.

Unit 3: Social Media and Youth Culture. This unit introduces students to argumentative reading and writing. They analyze short opinion texts and write essays that explore how social media influences young people. Through these tasks, students learn to support their viewpoints with logical reasoning and relevant evidence examples.

Unit 4: Health, Education, and Society. As students move into expository and analytical writing, this unit examines broader social themes such as healthy lifestyles, educational equity, and personal growth. They learn to develop

coherent arguments, assess different viewpoints, and enhance how they organize and present their ideas evidence.

Unit 5: Cross-Cultural Communication and Identity. As the final unit, this section encourages intercultural reflection. Students explore cultural similarities and differences between China and Spanish-speaking countries. They also write reflective essays that express their personal views and cultural insights perspectives.

4.2.2 Pedagogy

The pedagogical design of this curriculum follows the AIDL model, which structures learning into three interconnected phases: pre-class preparation with AI support, in-class engagement with AI scaffolding, and post-class reflection with AI assessment.

In the pre-class stage, AI supports generating preview materials, vocabulary lists, and background information. These resources activate students' prior knowledge and prepare them for upcoming classroom activities.

During the in-class stage, AI acts as an instructional facilitator. It provides multimodal input, adaptive questions, and real-time feedback, helping students develop language skills and cognitive abilities.

In the post-class stage, the emphasis moves to ongoing reflection and formative assessment. AI helps in this stage by creating quizzes, offering personalized feedback, and guiding students through self-evaluation.

Across all three stages, AI helps keep learning objectives, instructional activities, and evaluation methods aligned. This integrated approach builds a dynamic, learner-centered environment that promotes active participation and encourages critical thinking.

4.2.3 Teaching Activities

The teaching activities in this curriculum aim to implement the AIDL model practically. AI support is integrated throughout all learning stages to create a cohesive instructional process. In reading lessons, students work on AI-supported exercises to enhance their comprehension and analyze texts. These interactive tasks help learners identify main ideas, recognize discourse markers, and examine rhetorical structures in authentic Spanish materials (Esfandiari & Allaf-Akbary, 2024; Huszti et al., 2025). During writing instruction, students follow a structured process of drafting, receiving AI feedback, and revising their work. This cycle helps them gradually improve the coherence, cohesion, and logical development of their written arguments (Guo et al., 2024; Zhu et al., 2024). Through collaborative tasks, such as peer discussions and group projects, students share ideas, compare viewpoints, and evaluate arguments. AI-generated prompts and evaluation rubrics support these activities and guide the conversation. In information-searching activities, learners analyze online Spanish resources with AI assistance (Tan et al., 2022). The tools help by summarizing content and highlighting credibility cues, enabling students to focus on interpreting and assessing sources (Wei, 2023). Formative assessment is also woven into the course, with AI-generated quizzes offering students opportunities to track progress, reinforce learning, and develop language skills alongside critical thinking (Wannas & Hassan, 2025).

4.2.4 Assessments

The assessment in this curriculum combines both formative and summative approaches to support ongoing learning and reflective growth (Bhat & Bhat, 2019; Ismail et al., 2022). For formative assessment, the instructor employs AI-generated quizzes, unit-based writing tasks, personalized feedback, and systematic classroom observations to monitor learners' progress. These activities help students identify weaknesses, refine their reading and writing skills, and engage in self-regulated improvement during the course (Menéndez et al., 2019). Summative assessment is carried out through reading and writing tests. These evaluation tools are carefully aligned with CEFR proficiency descriptors to thoroughly measure students' language ability.

5. Discussion

This curriculum is guided by the AIDL model, developed by the researcher through a synthesis of previous studies on AI integration in SFL education. The AIDL model functions as a pedagogical framework that systematically connects curriculum design, instructional implementation, and formative assessment, aligning with the IMI+ framework proposed by Muñoz-Basols and Fuertes Gutiérrez (2025), which highlights curriculum-level AI throughout the entire teaching process. It is also consistent with Bozkurt (2023), who emphasizes the importance of curriculum-level integration in building intelligent learning environments. The findings suggest that the AIDL-based design effectively translates theoretical principles into classroom practice and shows how AI acts as an instructional facilitator rather than just a supplementary tool, echoing Kundu and Bej (2025), who contend that AI can serve as a pedagogical agent that actively mediates learning.

The consistency between the AIDL framework and the curriculum design is reflected in the application of its three-stage learning cycle across pre-class, in-class, and post-class instruction. In the pre-class stage, AI supports teachers in generating materials and activities aligned with course objectives and learners' proficiency levels, supporting the findings of Zhang et al. (2025), which show that intelligent content creation enhances the relevance and accessibility of instructional materials. By analyzing learners' previous performance, AI generates adaptive preview tasks such as reading summaries, key vocabulary lists, and short comprehension exercises. These personalized tasks activate prior knowledge and build conceptual readiness, echoing studies that highlight the role of AI-supported pre-class learning in increasing engagement and knowledge activation (Rahmawati et al., 2025). During the in-class stage, AI acts as a pedagogical facilitator through multimodal input, real-time interaction, and adaptive feedback. Previous studies (Belda-Medina & Goddard, 2024; Bozkurt, 2023) indicate that AI-generated visual, auditory, and textual resources help students process complex linguistic patterns and stay motivated, while dialogic interaction and immediate feedback promote linguistic accuracy and higher-order thinking. In the post-class stage, AI extends learning beyond the classroom through formative quizzes, personalized feedback, and reflective activities that help students monitor their progress and set new goals. These practices boost engagement and self-regulated learning, aligning with studies that confirm the benefits of AI-based assessment and feedback for improving reflection and knowledge retention (Li & Kim, 2024; Wannas & Hassan, 2025).

The AIDL-based Spanish curriculum demonstrates potential to improve both linguistic competence and cognitive development among Chinese university students. For linguistic competence, AI-driven reading and writing tasks improve students' ability to identify main ideas, interpret discourse markers, and produce coherent and accurate texts (Hsiao & Chang, 2024). Real-time feedback and multimodal resources further improve organization and grammar, aligning with studies showing that AI-enhanced instruction boosts textual awareness and linguistic fluency (Belda-Medina & Goddard, 2024). At the same time, the curriculum promotes critical thinking: AI-mediated interaction encourages learners to evaluate information, justify arguments, and reflect on reasoning during reading and writing. By comparing AI and peer feedback, students develop reflective judgment and evidence-based reasoning, consistent with research indicating that AI feedback fosters self-regulation and higher-order thinking in language learning (Bozkurt, 2023).

While previous research in Spanish language education has explored how artificial intelligence tools can enhance vocabulary acquisition, grammar correction, and pronunciation practice (Belda-Medina, 2024), few studies have examined how to systematically integrate AI into Spanish curriculum design to simultaneously develop Spanish reading, writing proficiency, and critical thinking ability. This study addresses that gap by implementing an AIDL instructional framework in Chinese higher education Spanish courses. The proposed model demonstrates how AI can jointly support linguistic development and cognitive growth in Spanish language learning.

6. Conclusion

The findings of this study suggest the theoretical feasibility of implementing the AIDL curriculum in SFL education at a Chinese university. Guided by the AIDL model developed in this research, the curriculum integrates AI throughout the entire teaching process and can improve students' reading, writing proficiency and critical thinking ability. This study is important because it shows how AI can act as an instructional facilitator, transforming traditional language classrooms into more adaptive, reflective, and learner-centered environments. This study validates the content and pedagogical soundness of the AI-driven Spanish curriculum through expert review, confirming its coherence, clarity, and alignment with CEFR descriptors. To further develop AI-driven language learning, future research should implement and empirically evaluate this curriculum in real classroom settings to examine its effectiveness in improving students' reading, writing proficiency, and critical thinking ability outcomes.

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