Cross-linguistic orthographic transfer: challenges and pedagogical implications for pre-service english teachers in Ecuador
Transferencia ortográfica entre lenguas: desafíos e implicaciones pedagógicas para la formación de docentes de inglés en Ecuador

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Abstract

This study examines the cross-linguistic orthographic transfer from Spanish (L1) to English (L2) in the academic writing of pre-service English teachers at an Ecuadorian public university. The research focuses on the influence of L1 punctuation and syntactic structures on L2 writing, identifying systematic errors that hinder writing proficiency. A content analysis of 119 introductory paragraphs written by first-year students revealed frequent transfer-related errors, including comma overuse, run-on sentences, omission of periods, capitalization mistakes, article misuse, and incorrect word order. Findings indicate that these errors stem from directly applying Spanish writing norms to English, particularly in punctuation and sentence segmentation. Pedagogical implications suggest that explicit contrastive grammar instruction, structured writing interventions, AI- assisted feedback, and increased reading-based exposure can mitigate these errors. By addressing orthographic transfer, teacher education programs can better equip pre- service teachers with the skills necessary for accurate and effective English writing.

Keywords: Cross-linguistic transfer; First language (L1); Second language (L2); Ecuadoran pre-service English Language Teachers; orthographic interference**.**

Resumen

Este estudio examina la transferencia ortográfica interlingüística del español (L1) al inglés (L2) en la escritura académica de futuros profesores de inglés en una universidad pública ecuatoriana. La investigación se centra en la influencia de la puntuación y las estructuras sintácticas del L1 en la escritura del L2, identificando errores sistemáticos que dificultan la competencia en la escritura. Un análisis de contenido de 119 párrafos introductorios escritos por estudiantes de primer año reveló errores frecuentes relacionados con la transferencia, incluyendo el uso excesivo de comas, oraciones compuestas sin puntuación adecuada, omisión de puntos, errores de mayúsculas, uso incorrecto de artículos y orden de palabras incorrecto. Los resultados indican que estos errores provienen de la aplicación directa de las normas de escritura del español al inglés, particularmente en la puntuación y la segmentación de oraciones. Las implicaciones pedagógicas sugieren que la instrucción gramatical contrastiva explícita, las intervenciones de escritura estructurada, la retroalimentación asistida por IA y una mayor exposición basada en la lectura pueden mitigar estos errores. Al abordar la transferencia ortográfica, los programas de formación docente pueden equipar mejor a los futuros profesores con las habilidades necesarias para una escritura en inglés precisa y efectiva.

Palabras clave: Transferencia interlingüística; Primera lengua (L1); Segunda lengua (L2); Futuros profesores de inglés ecuatorianos; interferencia ortográfica.

Introduction

Cross-linguistic Influence (CLI) refers to how a learner's first language (L1) affects the acquisition and use of a second language (L2) (Odlin, 2003). This transfer can be positive when L1 structures facilitate learning or negative when L1 interference leads to errors (Odlin, 1989). While extensive research has examined CLI in phonology (Major, 2001), syntax (Ellis, 1994), and lexicon (Ringbom, 2006), orthographic transfer—particularly in punctuation patterns—has received comparatively less attention.

With the increasing prevalence of bilingualism, bidirectional transfer between languages has emerged as a critical area of study. Research by Jarvis & Pavlenko (2008) and Silva-Corvalán (2014) highlights that transfer occurs not only from L1 to L2 but also from L2 back to L1. This is particularly evident in writing, where learners unconsciously apply punctuation conventions from their native language when writing in the target language and vice versa.

For Spanish-speaking students learning English, orthographic transfer manifests in punctuation errors such as comma overuse, run-on sentences, and misapplication of question and exclamation marks (Julbe-Delgado, 2010; Bahr et al., 2014). These errors often reflect L1 writing habits, as Spanish employs different punctuation norms than English (Hevia-Tuero et al., 2023). Conversely, students also experience L2-to-L1 transfer, leading them to apply English punctuation conventions to their Spanish writing,

sometimes at the expense of proper Spanish orthographic norms (Llombart-Huesca & Zyzik, 2019; Golin, 2019).

Writing difficulties pose a significant challenge for students pursuing degrees in education where English is the primary language of instruction (Lindner, 2018). A strong foundation in English is essential for academic success and crucial for their future careers as English educators. However, many students enter higher education without sufficient mastery of writing fundamentals, relying heavily on L1-based writing strategies that do not always align with English

conventions (Burgo, 2015). A lack of reading and writing practice further exacerbates these issues, making it difficult for students to develop strong English writing skills (Wolters & Kim, 2024).

Therefore, this study explores the cross-linguistic transfer of orthographic patterns between Spanish and English, focusing on patterns, misuses, and pedagogical implications. By identifying common patterns transferred from L1 to L2 and vice versa, this research aims to provide insights into pre-service English language teachers' challenges. Thus, this study seeks to address the following questions:

1. What are the most frequent orthographic transfer patterns from Spanish (L1) to English (L2) in pre-service teachers' writing?

2. How does English (L2) influence Spanish (L1) orthographic conventions among pre-service teachers?

3. How do these orthographic transfers impact writing clarity and readability in L2 academic settings?

4. What pedagogical strategies can be implemented to reduce orthographic transfer errors and improve writing proficiency in pre-service teachers?

Orthographic transfer: Definition and overview

Orthographic transfer refers to the influence of a writer's first language (L1) writing conventions—including punctuation, spelling, and sentence structure—on their second language (L2) writing (Malip & Abdul Aziz, 2022; Deng et al., 2022). This is a bidirectional phenomenon, meaning that L1 influences L2, and conversely, L2 can also impact L1 writing.

For Spanish speakers learning English as a foreign language (EFL), the significant differences in punctuation, sentence segmentation, and orthographic structures between the two languages contribute to both positive and negative transfer. While TEFL instruction aims to develop strong L2 literacy skills, learners often struggle when L1 norms interfere with English writing conventions (Kuosmanen, 2020).

Recent research highlights the role of shared phonological and orthographic processes between L1 and L2 in language learning (Shepperd, 2024; Mairano et al., 2024). Studies also emphasize the importance of structured interventions, such as

contrastive analysis and corrective feedback to mitigate negative transfer (Farias Wanderley et al., 2021). The bidirectional nature of orthographic transfer is increasingly recognized, with evidence showing that L2 patterns can also influence L1 writing. As a result, it sometimes alters Spanish punctuation and syntax (Borin & Holmer, 2024).

Orthographic transfer from L1 to L2

L2 learners often rely on their L1 as a linguistic scaffold, which can both aid and hinder language acquisition. Overgeneralization of L1 structures to L2 writing is a common source of errors, adapting to English writing conventions challenging (Malip & Aziz, 2022). Several specific examples of this transfer are discussed below.

Overuse of Commas: In Spanish, commas are used more frequently than in English, often to separate clauses that would typically require conjunctions, semicolons, or periods in English (Dabouis & Fournier, 2024). As a result, Spanish-speaking EFL learners frequently produce run-on sentences, even at advanced proficiency levels.

Example of L1 transfer error:

Incorrect (Spanish-influenced): She went to the store, she bought some milk, then she went home.

Correct: She went to the store. She bought some milk. Then, she went home.

Research suggests that targeted instruction can help mitigate this issue. A study by Ghabanchi and Vosooghi (2006) and Moyetta and Negrelli (2023) found that explicit teaching of English punctuation rules and contrastive analysis of Spanish and English texts significantly reduced comma overuse. Additionally, automated grammar-checking tools can be valuable for self-correction.

Omission of periods and run-on sentences: Spanish's tolerance for longer, clause-heavy constructions often lead Spanish-speaking EFL learners to produce run- on sentences. Research by Silva-Corvalán (2014) indicates that learners may string sentences together using commas instead of periods.

Example of L1 transfer error:

Incorrect: I woke up late, I missed the bus, I had to walk to school, I was very tired.

Correct: I woke up late. I missed the bus. I had to walk to school, so I was very tired.

Structured exposure to native English texts and sentence segmentation exercises have proven effective in mitigating this transfer error (Birch & Fulop, 2020).

Explicit instruction in English syntactic structures is also crucial for reinforcing appropriate punctuation use (Hochman & Wexler, 2017).

Misuse of question and exclamation marks: Unlike English, Spanish requires inverted question (¿) and exclamation (¡) marks at the beginning of sentences. As a result, Spanish-speaking EFL learners often misplace or omit these punctuation marks in English. Researches by López Urdaneta (2011) and Mansouri (2016) show that learners frequently omit question marks, assuming English word order alone signals a question. This reflects negative L1 transfer, where native language conventions interfere with L2 acquisition.

Example of L1 transfer error:

Incorrect: How are you! / ¿How are you?

Correct: How are you? **Incorrect:** ¡What a great idea! **Correct:** What a great idea!

Targeted instruction helps address these errors. Studies indicate that structured punctuation exercises improve bilingual students' ability to distinguish L1 and L2 conventions (Markov et al., 2018; Bahang & Hamzah, 2019). Systematic practice reinforces correct usage, leading to greater accuracy in writing.

Transfers from L2 to L1

While much of the research on orthographic transfer has traditionally focused on the influence of L1 on L2 writing, recent studies indicate that L2 writing conventions also impact L1 literacy practices (Sandberg et al., 2023). This phenomenon, often called reverse transfer, occurs when bilingual learners unconsciously apply L2 orthographic and syntactic norms to their L1, resulting in non-standard language use (Luque Agulló, 2020).

Studies indicate that exposure to L2 can enhance bilingual writers' semantic awareness, leading to a more nuanced understanding of lexical and structural choices in L1 (Zining, 2023). However, reverse transfer also presents challenges. Syntactic interference may occur when L2 sentence structures unintentionally influence L1 writing, potentially affecting coherence and grammatical accuracy (Yuan, 2020).

Furthermore, differences in cultural frameworks between L1 and L2 can sometimes lead to unintended shifts in expression, resulting in cultural misalignment or misinterpretation (Zining, 2023).

In the case of Spanish speakers learning English as a foreign language (EFL), the increased exposure to English punctuation, sentence segmentation, and capitalization conventions can lead to deviations from standard Spanish orthography (Pérez Cañado, 2006; Burgo, 2015; Rivera, 2019). Bilingual learners frequently exhibit changes in their L1 writing, particularly punctuation usage, due to their reliance on English writing models (Williams & Lowrance-Faulhaber, 2018; Apuhin et al., 2023).

Additionally, informal digital communication reinforces non-standard punctuation habits, as many bilingual users assume that simplified punctuation in online discourse is grammatically acceptable in formal writing (Bitat & Boutouha, 2022; Sikandar, 2025).

Common L2-to-L1 transfer errors

Omission of inverted question and exclamation marks

Due to the influence of English, which does not use inverted punctuation, bilingual learners frequently omit the inverted question (¿) and exclamation (¡) marks required in Spanish.

Example of L2-to-L1 transfer error:

Incorrect: ¿Cómo *estás?*

Correct: *¿Cómo estás?*

Research by Montes-Alcalá (2024) and Núñez-Román et al. (2024) highlights that this error is widespread among Spanish-English bilinguals who use digital communication extensively. Therefore, explicit instruction on contrastive grammar helps students retain standard Spanish punctuation norms (Erlam, 2019).

Overuse of periods in Spanish

Since English writing conventions encourage shorter sentences, Spanish-speaking EFL learners often apply excessive sentence segmentation in Spanish. This disrupts the natural syntactic flow.

Example of L2-to-L1 transfer error:

Incorrect: Fui al cine. Después. Compré helado.

Correct: Fui al cine y después compré helado.

Structured contrastive analysis activities are effective in helping students maintain the fluid sentence structure characteristic of Spanish (Moyetta & Negrelli, 2023;).

Pedagogical implications of this transfer for preservice English language teachers

Errors in English usage are observed not only among Spanish speakers learning English as a Foreign Language (EFL) for communication or academic purposes but also among pre-service English language teachers. Research on classroom language during

field practice has identified frequent grammatical errors, including omission (50%), overinclusion (21.73%), misselection (8.70%), and misplacement (4.34%) (Aufa & Syarif, 2020). Similarly, studies on preservice teachers' written production highlight persistent challenges with verb phrases, clause patterns, and prepositions, suggesting that advanced levels of study do not necessarily eliminate these difficulties (Chávez Chávez & Valenzuela Ponce, 2023).

Given their role as future educators, preservice teachers must develop an awareness of orthographic transfer and its impact on second-language (L2) writing (Hikida et al., 2019). Addressing these errors in teacher education requires a comprehensive approach combining explicit instruction, structured interventions, technological integration, reading strategies, and metalinguistic awareness development.

One effective strategy is explicit contrastive instruction, which compares Spanish and English punctuation and syntax to help learners recognize and mitigate first- language (L1) interference (Díaz Martínez, 2019). Activities such as contrastive analysis exercises and targeted revisions of Spanish-influenced texts strengthen students' understanding of English conventions, particularly when combined with metalinguistic explanations and contextualized examples (López Urdaneta, 2011; Atouf & Harrizi, 2024). Peer editing also enhances collaborative learning and linguistic self-awareness, encouraging students to critically assess both their writing and that of their peers (Jarvis & Pavlenko, 2018).

In addition, structured writing interventions facilitate the transition to L2 norms by incorporating scaffolded exercises such as modeling correct punctuation (Kim & Piper, 2019), sentence segmentation tasks targeting run-on sentences, and self-editing workshops (Freddi, 2019; Díaz Martínez, 2019; Memari Hanjani, 2021). Reflective writing journals further support this process by allowing learners to track their progress and internalize grammatical structures over time.

The integration of digital technology has also proven valuable in L2 writing instruction. Grammar-checking tools such as Grammarly and Quillbot provide real-time feedback, helping learners refine their writing accuracy and organization (Reguig & Mouffok, 2023). AI-based writing assistants supplement traditional instruction by offering customized revision suggestions and enhancing textual cohesion (Widiati et al., 2023). Furthermore, online writing platforms, such as Google Docs and AI-supported peer review tools, facilitate real-time collaboration and constructive feedback, promoting linguistic proficiency and critical language awareness (Abdennouri, 2024).

Another key component of L2 writing development is reading-based intervention, which exposes learners to well-structured English texts, reinforcing grammatical accuracy and fluency (Limerick & Hornberger, 2021). Annotated reading exercises highlight key linguistic features such as punctuation, syntax, and sentence structure (Moses et al., 2020), while bilingual reading comprehension activities bridge L1 and L2 literacy by clarifying textual coherence and punctuation choices (Rodríguez, 2019).

Writing-intensive reading approaches, including annotation and structured analysis, further enhance fluency and punctuation awareness (Collins et al., 2017).

Finally, fostering metalinguistic awareness is essential in addressing orthographic transfer. Engaging preservice teachers in discussions about linguistic differences, contrastive error analysis, and bilingual writing prompts encouraging translanguaging (Hamman-Ortiz, 2024). Thus, it can enhance their ability to navigate between languages more accurately and flexibly

By incorporating these strategies into teacher education programs, preservice English language teachers can develop a deeper understanding of L2 writing conventions, ultimately improving their proficiency and ability to support future students in overcoming similar challenges.

Methodology

This study employed Content Analysis to systematically examine punctuation use and misuse in the English writing of pre-service English language teachers. Content analysis, a structured research method, is well-suited for this study purpose as it allows for the categorization and quantification of linguistic patterns within written texts. It enabled the identification of recurring punctuation errors and their potential influence on students' writing practices.

Sample

The research analyzed 119 introductory paragraphs (approximately 10 sentences each) written in English by first-level pre-service teachers enrolled in the Pedagogy of National and Foreign Languages program at a public university in Ecuador. These writing samples were submitted as part of an online English course assignment within the program's virtual classroom

environment. Because the sample focuses specifically on first-level students, the findings should be interpreted within this context and participants and not generalized to the program as a whole.

Ethical considerations

This study exclusively examined pre-existing coursework assignments. No direct interventions, surveys, or experimental manipulations were conducted, and no personal or sensitive student data were collected beyond the written content of the assignments. Formal student consent was not required because the research focused solely on content analysis. All ethical research standards were adhered to, ensuring responsible and academic use of the data.

Data collection procedure and analysis

This study analyzed 119 student writing samples to identify and categorize orthographic transfers. A three-stage process ensured systematic and efficient evaluation:

1. **Punctuation identification:** AI-assisted tool (Gemini) was used to identify instances of correct and incorrect punctuation usage within each writing sample.

2. **Identification:** Upon discovering the errors, they were identified using a set of linguistic criteria for classification, leading to the identification of error types.

3. **Pattern analysis:** Finally, the errors were categorized to improve the machine learning model and analyze common punctuation errors seen in pre-service teachers.

The following table (See Table 1) clarifies the respective roles of AI-assisted analysis and manual validation in this process:

Analysis and manual validation in this process:

Table 1. Roles of AI-Assisted analysis and manual validation in student writing assessment

ANALYTICAL PROCESS	AI-ASSISTED FUNCTION	MANUAL VALIDATION
Error extraction & categorization	Identifies punctuation errors and classifies them based on linguistic principles.	Ensures contextual appropriateness of classifications.
Comparison of student errors & corrections	Compares incorrect sentences with corrected versions to detect common patterns.	Evaluates whether corrections align with writing norms.
Quantification of error frequency	Measures the prevalence of each type of error, providing statistical insights.	Verifies for consistency.
Structured reporting	Generates detailed reports, organizing errors into tables and summaries for further analysis.	Interprets findings and draws pedagogical implications.

AI played a crucial role in automating the analysis and enhancing efficiency, but researchers validated final interpretations to ensure contextual and pedagogical relevance.

Results

Based on the analysis of students' writing samples, the most common orthographic transfer patterns occur from Spanish (L1) to English (L2) rather than from English (L2) to Spanish (L1). Table 2 provides a detailed analysis of these errors, their incorrect and corrected forms.

Tabla 2. Common orthographic transfer errors from L1 (Spanish) to L2 (English) in pre- service teachers' writing

ERROR TYPE	INCORRECT SENTENCE	CORRECTED SENTENCE	ANALYSIS
Comma overuse	I like to read, my favorite book is Harry Potter, I watch the movies too.	I like to read. My favorite book is Harry Potter. I also watch movies.	Spanish uses commas more frequently to separate clauses; periods or conjunctions are needed in English.
	She woke up early, she prepared her breakfast, then she went to class.	She woke up early. She prepared her breakfast. Then, she went to class.	Spanish allows multiple clauses in a sentence; periods or connectors should be used in English.
Run-on sentences	Yesterday I went to the park it was very nice the weather was good so I stayed there for a long time and then I met my friends we played soccer.	Yesterday, I went to the park. It was very nice, and the weather was good, so I stayed there for a long time. Then, I met my friends, and we played soccer.	The lack of punctuation marks makes sentences unclear. Each idea should be separated.
	She studies at the university she wants to become a teacher she likes	She studies at the university because she wants to become a teacher.	
Omission of periods or commas	English very much.	She likes English very much.	Omitting periods results in unclear meaning; sentences must be properly segmented.
	I am a student at UNEMI I study languages I like English I want to be a teacher.	I am a student at UNEMI. I study languages. I like English, and I want to be a teacher.	
	He wakes up at 6 AM he takes a shower he eats breakfast then he goes to work.	He wakes up at 6 AM. He takes a shower, eats breakfast, and then goes to work.	
	My father is a teacher, he works at a school, he teaches mathematics.	My father is a teacher. He works at a school and teaches mathematics.	

Capitalizati on e|rrors	i am from ecuador, i study english.	I am from Ecuador. I study English.	Proper nouns and sentence start must always be capitalized in English.
Misuse of articles	I am student at university.	I am a student at the university.	Incorrect article usage and overall sentence structure due to differences in the two languages' grammatical rules
	She has an dog and a cat.	She has a dog and a cat.	
	He is the teacher of English.	He is an English teacher.	
Direct or literal translation from Spanish-to- English	I have 20 years old.	I am 20 years old.	Literal Spanish-to-English translation often results in incorrect sentence structure.
Incorrect word order	I like very much the music.	I like music very much.	Incorrect word order results from differences in sentence structure between Spanish and English, including misplaced adjectives.
Misuse of question/ex clamation marks	¿How are you?	How are you?	Spanish uses inverted questions, exclamation marks, and syntax to indicate questions, while English uses only terminal punctuation and requires question marks for interrogative sentences.
	¡What a beautiful day!	What a beautiful day!	

Pre-service teachers' writing samples reveal a consistent orthographic and syntactic transfer pattern from Spanish (L1) to English (L2). These transfer errors are not arbitrary but rather systematic, reflecting structural differences between the two languages. Several key areas emerged:

Syntactic transfer: A primary source of error stems from applying Spanish grammatical rules to English writing. This includes issues with sentence structure, punctuation, and word order.

Punctuation challenges: Difficulties with comma usage, sentence segmentation (including run-on sentences), and period omission suggest a struggle with understanding the concept of independent clauses in English. This

likely arises from the more flexible punctuation norms in Spanish, which permit longer and more complex clauses. The contrast between the two languages' approaches to connecting ideas contributes to this challenge.

Word order and adjective placement: Instances of incorrect word order, such as misplaced adjectives (e.g., "I have a brother older"), point to direct translation from Spanish syntax. Students still rely on L1 structures rather than fully internalizing English grammatical patterns.

Article usage: Errors in definite and indefinite article usage (e.g., "I am a student at university") suggest direct transfer of Spanish article rules: the frequent omission or differential use of articles in Spanish leads to their incorrect application in English.

Capitalization and question formation: The observed inconsistencies in capitalization (e.g., failure to capitalize "I" and proper nouns) and the use of inverted question marks (e.g., "¿How are you?") directly reflect Spanish writing conventions, where capitalization rules differ, and questions are marked at both ends. These errors highlight the influence of L1 writing habits on L2 production.

The analysis demonstrates the pervasive influence of L1 Spanish on the pre- service teachers' L2 English writing. The identified errors are systematic and predictable. They arise from the interplay between the two languages' distinct grammatical structures and orthographic conventions.

Discussion

This study explores the cross-linguistic transfer of orthographic patterns between Spanish and English among pre-service English teachers in Ecuador writings. The data reveal systematic errors that align with established patterns of cross-linguistic influence, reinforcing previous findings on L1 transfer in second-language writing (Jarvis & Pavlenko, 2008; Silva-Corvalán, 2014). The

analysis of student writing samples shows that several errors stem from the direct application of Spanish writing conventions to English. These include comma overuse, run-on sentences, omission of periods, capitalization mistakes, article misuse, and incorrect word order. Issues with sentence

segmentation and punctuation are common. They reflect direct interference from Spanish writing conventions. These findings align with previous research on orthographic transfer in second-language writing. Studies show that English as a Foreign Language (EFL) learners often struggle when their native language employs different writing conventions (Julbe-Delgado, 2010; Moyetta & Negrelli, 2023).

One of the most prevalent issues is overusing commas and run-on sentences. These reflect learners' difficulty absorbing English sentence divisions. Spanish allows more extensive, multiple-clausal sentences separated by commas, while English requires stricter segmentation by periods or conjunctions (Dabouis & Fournier, 2024; Kuosmanen, 2020). The lack of punctuation in compound sentences makes reading even more complicated. Moreover, it creates structural ambiguity and less comprehension. This difficulty switching between L1 and L2 punctuation systems justifies the importance of explicit teaching in contrastive grammar. Research has confirmed that explicit comparison between Spanish and English writing conventions significantly reduces punctuation errors **(**Díaz Martínez, 2019).

The syntactic transfer is also evident in article misuse and incorrect word order, both of which reflect direct influence from Spanish grammar. The frequent omission of articles in phrases such as "I am student at university" corresponds to Spanish structures that do not require definite or indefinite articles in the same contexts as English. Likewise, errors such as "I have 20 years old" exemplify literal translation from Spanish syntactic constructions. It is a well-documented phenomenon in bilingual writing (Malip & Abdul Aziz, 2022; Deng et al., 2022). These structural errors suggest that learners continue to rely on L1 grammar rules even at advanced stages of

language study. In this way, it highlights the limitations of implicit acquisition models in teacher education programs.

Capitalization errors and the misuse of question marks further illustrate how deeply ingrained L1 conventions affect L2 writing. Spanish does not require the capitalization of the first-person singular pronoun, leading learners to produce errors such as *"i am from Ecuador."* Similarly, the insertion of inverted question marks in English (*¿How are you?*) demonstrates reliance on Spanish punctuation habits despite formal instruction in English writing (Montes-Alcalá, 2024; Núñez-Román et al., 2024).

These findings confirm previous research on L1 interference in bilingual literacy practices, where persistent exposure to native-language norms continues to shape writing even when learners consciously attempt to adhere to L2 standards **(**Bahr et al., 2014).

The results of this study underscore that orthographic transfer is not random but follows predictable patterns based on structural differences between Spanish and English. The persistence of these errors among pre-service teachers suggests that conventional pedagogical approaches may not fully address the depth of cross-linguistic influence in writing development. While general EFL instruction focuses on vocabulary acquisition and fluency, insufficient attention is given to the complexities of punctuation, syntax, and orthographic conventions. This gap in training has significant implications for teacher education programs, as pre-service teachers who struggle with these issues will, in turn, pass them on to their future students. Addressing orthographic transfer requires a combination of explicit contrastive grammar instruction, structured feedback mechanisms, and increased exposure to well-structured English texts. Studies on bilingual education emphasize that metalinguistic awareness is crucial in mitigating transfer errors, as students who engage in contrastive analysis exercises demonstrate greater accuracy in both L1 and L2 writing (Hamman-Ortiz, 2024).

Beyond explicit instruction, integrating AI-assisted writing tools such as Grammarly and Quillbot has shown promise in helping learners recognize and correct orthographic errors in real-

time. These tools provide immediate feedback on punctuation and syntax and reinforce writing conventions through repeated exposure **(**Reguig & Mouffok, 2023; Marzuki et al., 2023). Additionally, reading-based approaches incorporating annotation exercises and structured analysis of authentic English texts have proven effective in reinforcing correct punctuation and sentence segmentation (Limerick & Hornberger, 2021; Moses et al., 2020).

The implications of these findings extend beyond individual learner proficiency to the broader context of language education. If pre-service teachers cannot internalize L2 writing conventions effectively, their students will likely encounter similar difficulties.

Thus, a cycle of orthographic transfer errors in English classrooms will continue. Teacher education programs must, therefore, adopt more comprehensive strategies

that address these issues at their core. By implementing targeted interventions that emphasize contrastive linguistic analysis, real-time feedback, and extensive exposure to native English writing models, pre-service teachers can develop greater accuracy and fluency in L2 writing. The findings of this study reinforce the need for ongoing research into the long-term effectiveness of these pedagogical interventions, particularly in how they shape bilingual literacy development in teacher training contexts.

Conclusions

This study conclusively demonstrates the significant influence of Spanish (L1) on the English (L2) writing of pre-service English teachers. The prevalent errors observed—comma overuse, run-on sentences, omitted periods, capitalization errors, article misuse, incorrect word order, and misuse of question marks—indicate direct transfer from Spanish punctuation and syntactic structures. These findings underscore that orthographic transfer is a systematic and predictable process, not a matter of chance. Spanish-speaking learners naturally apply familiar L1 conventions when writing in English, often to the detriment of clarity and grammatical accuracy. Consequently, explicit instructional interventions help these pre-service teachers recognize, understand, and correct these transfer-related errors.

Moving forward, teacher education programs should prioritize incorporating targeted contrastive grammar instruction, explicitly focusing on punctuation, sentence segmentation, and article usage. Furthermore, pre-service teachers should participate in structured writing interventions incorporating peer editing, AI-assisted feedback, and reflective practice to monitor their error patterns. Increased exposure to well-structured English texts through annotated reading exercises can reinforce correct punctuation and sentence construction. While this study successfully identifies L1-to-L2 orthographic transfer errors, future research could explore the long-term impact of contrastive instruction on writing accuracy, how AI-based writing assistants influence self-correction abilities, and the effectiveness of reading-based strategies in mitigating L1-based punctuation errors. In addition, addressing orthographic transfer through structured pedagogical approaches, pre-service English teachers will be better prepared to navigate the complexities of bilingual writing and effectively support their future students in developing English literacy.

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