

AI in the second language classrooms: enhancing Spanish writing skills with Copilot in a Danish university context



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Introduction

The integration of artificial intelligence (AI) into second language (L2) teaching and learning has garnered increasing attention due to its potential to transform teaching and learning practices. Among its most notable benefits is the capacity to foster innovative approaches to curriculum design, as AI tools enable educators to rethink traditional pedagogical frameworks (Kim and Kim, 2022). With effective use, AI can facilitate personalized learning experiences by providing dynamic, digital feedback between learners and intelligent systems, thereby enhancing student engagement and autonomy in the language learning process. However, some studies have also raised concerns regarding the pedagogical value of the feedback provided by these systems, specially about how well it fits the teaching objectives and supports L2 learning. As Kundu and Bej (2025) noted, while AI tools offer personalized and immediate feedback, they often fall short in addressing language nuances, cultural contexts, and complex pedagogical needs.

Based on these benefits and concerns, this study investigates the potential and limitations of integrating AI—specifically Copilot—as a tool for writing in Spanish as a L2 at university level. It also examines how an

instructional guide, created by the teachers, supported students in using AI. Finally, it looks at the feedback provided by Copilot and the decisions students made about incorporating or rejecting that feedback.

AI in L2 Learning from a sociocultural perspective

Beyond the benefits and limitations highlighted in previous research on AI in L2 learning, the literature review also underscores the importance of integrating AI and human experience in a balanced way. This balance should ensure that technological tools complement, rather than replace, pedagogical expertise and interpersonal interaction (Algaraady and Mahyoob, 2023). These ideas align with socioconstructivist principles of L2 learning, which view learning as a socially mediated process where knowledge is co-constructed through interaction and dialogue.

From a sociocultural perspective, L2 writing is conceptualized as a socially mediated activity, shaped by interaction and contextual factors (Sala-Burbaré and Castelló, 2018). This view proposes that learning takes place through engagement with others, where collaborative dialogue, teacher feedback and technology-mediated tasks are essential in developing learner's writing abilities. From this perspective, learning is understood as an interactive and socially mediated process, where knowledge is co-constructed through dialogue and participation.

Vygotsky's (1978) notion of the Zone of Proximal Development (ZPD) further informs this framework, suggesting that external support—whether from peers, instructors, or tools—can scaffold learners' progression toward more advanced writing competencies. Pedagogical practice, therefore, should aim to transform learners' understanding of the writing process itself, emphasizing writing as a recursive, reflective, and strategic activity (Seow, 2002). In line with this, L2 practices must also evolve to position learners as active agents in their own writing activities, encouraging conscious and reflective participation in the learning process. As proposed by Vilchez Veleza and Morollón Martí (2024), L2 instructional designs should go beyond evaluating the final product in terms of correctness and must also consider the student's agency and communicative intentions throughout the writing process.

In order to promote reflexive practice in the process of L2 learning, Swain's (2006) concept of languaging—the process of using language to reflect on and shape thought—illustrates how learners actively construct meaning through collaborative discourse, rather than passively receiving information. This perspective offers a framework for understanding how AI-driven tools, such as chatbots, if used properly as learning tools, can mediate learning by fostering social interaction and facilitating the co-construction of knowledge within a L2 learning context. However, we believe that the integration of such tools must be carefully designed to preserve the interpersonal and reflective dimensions that are essential to language learning.

Study goals and research questions

This study investigates the potential and limitations of integrating AI—specifically Copilot—as a support tool for writing in Spanish as a L2 at university level and how a structured instructional guide, developed by the course teachers and authors, can scaffold L2 learners’ engagement with AI to improve written production. Furthermore, the study analyzes the accuracy of AI-generated feedback and examines students’ decisions and metalinguistic reflections when accepting or rejecting Copilot’s corrections. Specifically, this study aims to explore the following research questions:

RQ1: How can the use of AI (Copilot) be effectively integrated as a pedagogical tool in the process of learning Spanish L2 writing within an academic context?

RQ2: What pedagogical benefits and limitations emerge from the implementation of this pedagogical activity, particularly regarding the feedback provided by Copilot on written assignments produced by Spanish language learners?

Methodology

This study follows a case study methodology (Duff, 2012), and it “seeks depth rather than breadth in its scope and analysis. Its goal is not to universalize but to particularize and then yield insights of potentially wider relevance and theoretical significance” (p. 96). It focuses on four students enrolled in a fourth-semester Spanish course on oral and written expression at a Danish university during the Spring Semester of 2025, who completed all the required task. The participants’ proficiency level ranged from B2 to C1 on the CEFR scale, including one native Spanish speaker.

The instructional guide and the task

To address the first research question (RQ1), the instructional guide (see Attachment 1) was developed by taking into account three main objectives: (1) to scaffold student’s writing process by focusing on one linguistic dimensions at time, such as grammar, lexicon, discourse coherence, and adaptation to the discursive genre, (2) to foster metalinguistic reflection and informed decision-making by encouraging students to accept or reject the corrections suggested by Copilot, and justify their choices; and (3) to provide students with a practical tool that could be applied autonomously in future writing tasks. The guide also included the prompts that students should use in their interaction with Copilot, elaborated from the recommendations proposed by prompt engineering. These prompts were provided to encourage students to reflect on the importance of formulating details requests to the AI in order to obtain the desired answers. Since the activity aimed to compare the results, students were not allowed to use their own prompts. For working with this instructional guide, students wrote a blog entry on the topic of happiness as a homework assignment. Afterwards, during a 90-minute class session, they worked independently with the instructional guide, while teachers were available in the classroom to answer questions. After completing the task, students submitted the completed guide to the teachers to document their writing and correction process.

To facilitate the analysis of the correction process, students were asked to highlight accepted corrections in green and rejected ones in red. When rejecting a correction proposed by Copilot, they were expected to provide a brief justification in the margin, outlining the rationale behind their choice.

Analysis procedure

To address the second research question (RQ2), a qualitative and quantitative analysis of the data from the students' correction's guide was conducted. The analysis focused on two main aspects (1) the types of errors identified and the quality of Copilot's explanations, and (2) the students' metalinguistic reflections regarding their acceptance or rejection of Copilot's suggestions. To examine the error types and explanation quality, each student's data was manually coded in two ways, following coding categories developed by the researchers after a first reading, as outlined in Table 1. In both the corrections and explanations, the tag "outside the level to be corrected" was added to indicate those cases in which the AI corrected something related to a language level that was not asked for. To ensure precision and neutrality in evaluating Copilot's corrections, three resources were consulted: *Diccionario de la Lengua Española* (DLE), *Diccionario Panhispánico de Dudas* (DPD), and the corpus *Corpus de Referencia del Español Actual* (CREA).

Corrections	Explanations
Adequate	Correct
Unnecessary	Abstract
Inadequate	Incorrect
Not made	Not given
Changes were made without explaining them	Appropriations (explanations without correction)
Outside the level to be corrected	Outside the level to be corrected

Table 1: Coding categories

Results

As illustrated in Figure 1, where each case refers to a specific student, most of Copilot's corrections were adequate and contributed positively to each of the students' understanding. They aligned with standard usage and facilitated the improvement of the written task. However, we found in the analysis some other corrections coded as inadequate or not made. These corrections can reinforce errors if students lack teacher guidance to critically evaluate them. Additionally, although less frequent, the corrections coded as unnecessary, unexplained changes and changes outside the level to be corrected, can also hinder students' ability to understand and learn from their mistakes.

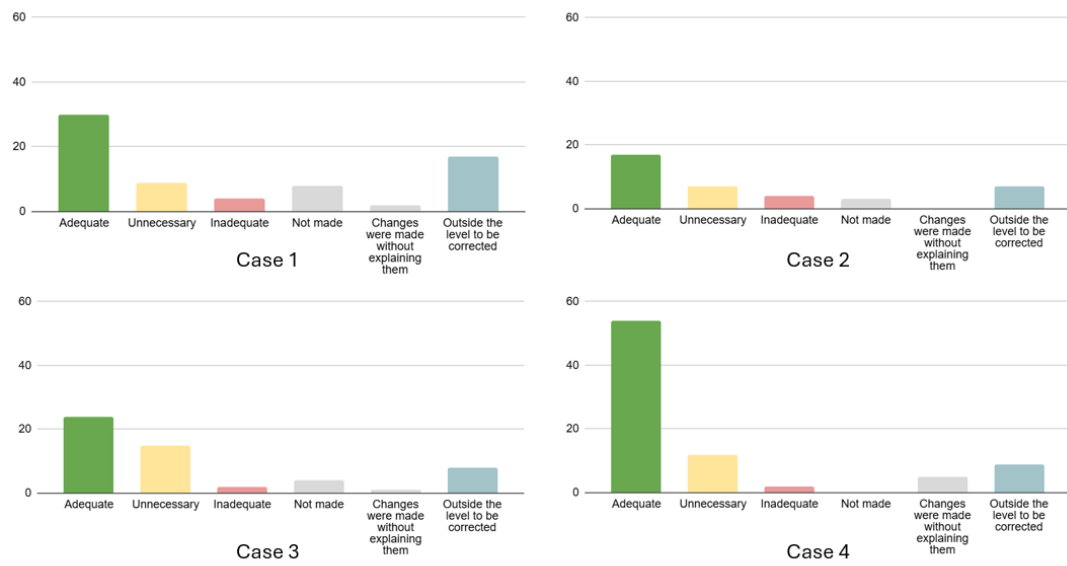


Figure 1: Analysis of the Corrections made by Copilot

Finally, as shown in Figure 2, while most explanations were accurate, there was little difference in number between adequate and abstract ones. This result indicates that the abstract explanations can be problematic for students who rely solely on AI, as they may not be able to fully understand grammatical structures or word usage, even when the correction provided by Copilot was adequate. In addition, we can observe other factors such as inadequate explanations or explanations on what the student did successfully, which do not contribute to the learning experience and may feel redundant.

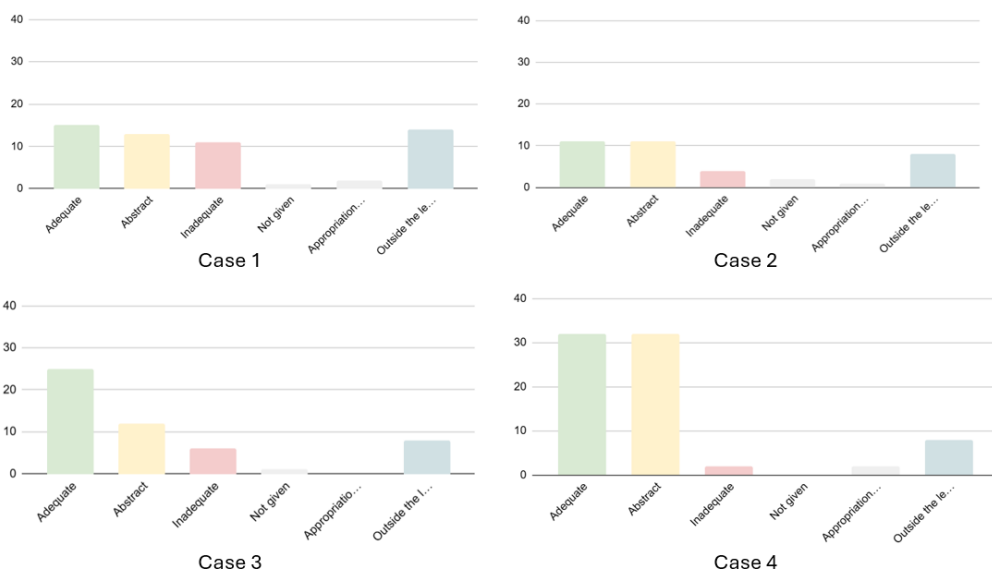


Figure 2: Analysis of the Explanations made by Copilot

Relationship between the correction and the explanation

A more in-depth analysis of the relationship between the corrections and the explanations revealed that there is not always a relationship between the correction and the type of explanation proposed by Copilot. As a result, we can find examples in the data of how adequate corrections can have abstract explanations (Example 1), unnecessary corrections can have abstract explanations (Example 2) or that inadequate corrections can have incorrect explanations (Example 3).

<p>Texto original: "¿Consideras a menudo si eres feliz? La idea de felicidad nos ocupa – se nombra el país mas feliz</p> <p>Texto corregido: "¿Consideras a menudo si eres feliz? La idea de felicidad nos ocupa – se nombra el país más feliz</p> <p>Explicación:</p> <ul style="list-style-type: none">• "mas" debe llevar tilde: <i>más</i>.

Example 1

In this example, Copilot explanation indicated that the word *mas* required an accent, without explaining the underlying grammatical rule or the semantic distinction between the accented form *más* (meaning ‘more’) and the unaccented form *mas* (a conjunction meaning ‘but’). As shown in the example, the student accepted the correction by marking it in green. However, the lack of explanation could hinder students’ understanding of the correction and the reason behind their choice.

<p>Texto original: No es una novedad que hacer ejercicio no solamente es útil para el cuerpo, sino también para la cabeza,</p> <p>Texto corregido: No es una novedad que hacer ejercicio no solamente es útil para el cuerpo, sino también para la mente.</p> <p>Explicación: "Cabeza" se cambia por "mente" para mayor precisión.</p>
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Example 2

In this second example, Copilot replaced the word *cabeza* (head) for *mente* (mind), a word that we consider equally appropriate in the given context. Additionally, the explanation provided, stating that the change was made ‘for greater precision’, is overly abstract and fails to offer meaningful feedback to the student.

Oración original: "Mientras yo, viviendo **acá** hace varios años, ni me enteré de que vivía en el país donde se es 'más feliz'." **Oración corregida:** "Mientras yo, viviendo aquí hace varios años, ni me enteré de que vivía en el país donde se es 'más feliz'." **Explicación:** "Acá" se cambia a "aquí" porque es más formal.

Example 3

In this final example, Copilot replaces *acá* ("here," commonly used in Latin American Spanish) with *aquí* ("here," more used in Peninsular Spanish), justifying the change by stating that *aquí* is more formal. However, the explanation is vague and lacks sufficient elaboration, which may limit the student's understanding of the sociolinguistic nuances between the two terms. The absence of a clear sociolinguistic explanation can be problematic, as it may lead students to question the validity of the language variety they are using and potentially undermine their confidence in using the Spanish they have learned.

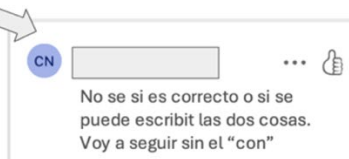
Metalinguistic reflections

The analysis of students' comments reveals both uncertain decision-making (Example 4) and active rejection of Copilot's suggestions (Example 5). As shown in the example 4, Copilot corrects the sentence *es suficiente sentirse contentos* (it's enough to feel happy) by adding the preposition *con*. In response to the change proposed by Copilot, the student expresses uncertainty about whether both forms are correct and ultimately decides not to accept Copilot's suggestion, stating: "I will continue without 'con!'."

Texto original:
¿Tenemos que ser felices, o es suficiente sentirse contentos?

Texto corregido:
¿Tenemos que ser felices, o **es suficiente con** sentirse contentos?

Explicación:
El conector "con" es necesario para que la frase sea gramaticalmente correcta.



Example 4

Finally, in this last example, we can see how the student actively rejects Copilot's suggestion to replace *abajo* with *a continuación*. Based on the explanation provided by Copilot (*a continuación* is more formal) the student decides not to incorporate this change by pointing out *No quiero formalidad, es un blog* (I

don't want formality, it's a blog). This comment demonstrates metalinguistic awareness of the textual characteristics of the blog genre and agency in choosing to maintain a more informal language register.

Texto original:

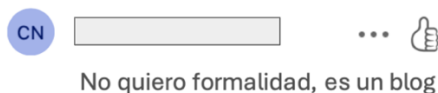
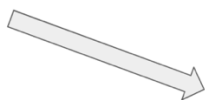
Si necesitas inspiración sobre cómo fijarte en las cosas de tu vida actual que te pueden traer más alegría, ¡sigue leyendo! Abajo destacaré 4 cosas o aspectos de tu vida que puedes aprovechar más porque te pueden hacer, si no más feliz, por lo menos más contento en tu vida diaria.

Texto corregido:

Si necesitas inspiración sobre cómo fijarte en las cosas de tu vida actual que te pueden traer más alegría, ¡sigue leyendo! **continúa** destacaré 4 cosas o aspectos de tu vida que puedes aprovechar más porque te pueden hacer, si no más feliz, por lo menos más contento en tu vida diaria.

Explicación:

Se sustituye "Abajo" por "A continuación," para mejorar la formalidad y claridad del texto.



Example 5

Conclusions

The analysis of the data shows that students improved the quality of their written work. It also shows positive aspects in the use of a structured instructional guide as it scaffolded the students' work process and pushed them to position themselves critically in the face of the changes proposed by Copilot. While most corrections provided by Copilot were adequate and contributed to improve students' written task, the analysis reveals significant limitations in the quality and clarity of the explanations. In particular, abstract or inadequate explanations, as well as corrections lacking sociolinguistic sensitivity, may hinder students' ability to understand the reasons of the proposed changes. Based on these results, we would like to highlight the importance of supplying the use of this instructional guide with other pedagogical resources for L2 learning as corpus or dictionaries, which can support student's metalinguistic reflections during the decision-making activity.

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Attachment 1: Instructional guide

Prompt 1: Grammar and spelling

Paste your original text here	
Prompt	<p>You are a university professor of Spanish as a foreign language. You are teaching a writing course at a Danish university. I have written a text for you belonging to the genre ‘blog entry’. You must correct the grammar and spelling used in the text and give me the explanations corresponding to each correction in Spanish. Your corrections and explanations must be high quality and accurate, but tailored to my educational learning context, level B2 in writing according to the CEFR, so that they are understandable to me. Underline the corrections you make so that they are easier to identify. Correct and show the differences sentence by sentence, indicating the original sentence and the corrected sentence. The target audience for my text is casual readers of the blog where it will be published.</p> <p>The text is as follows: ‘’.</p>

<p>Paste here Copilot's answer</p> <p>Mark the changes you have accepted in green</p> <p>Mark the changes you have NOT accepted in red</p>	
<p>Explanation of accepted changes</p> <p>(For example, if Copilot tells you that you have a concordance error in 'el mesa', write down what it told you: 'concordance error')</p>	
<p>Explanation of rejected changes</p> <p>(For example, if it suggests using the indicative where you know the subjunctive should be used, write 'the subjunctive is correct here')</p>	
<p>Your thoughts on the corrections</p> <p>(For example, if you consider that they are good or specific corrections or you think the corrections are abstract and not very helpful)</p>	

Prompt 2: Vocabulary

<p>Paste Copilot's text with grammar corrections</p>	
<p>Original text</p>	
<p>Prompt</p>	<p>You are a university professor of Spanish as a foreign language.</p>

	<p>You are teaching a writing course at a Danish university. I have written a text for you belonging to the genre 'blog entry'. You must correct the vocabulary used in the text and give me the explanations corresponding to each correction in Spanish. Your corrections and explanations must be high quality and accurate, but tailored to my educational learning context, level B2 in writing according to the CEFR, so that they are understandable to me. Underline the corrections you make so that they are easier to identify. Correct and show the differences sentence by sentence, indicating the original sentence and the corrected sentence. The target audience for my text is casual readers of the blog where it will be published.</p> <p>The text is as follows: ‘.</p>
<p>Paste here Copilot's answer</p> <p>Mark the changes you have accepted in green</p> <p>Mark the changes you have NOT accepted in red</p>	
Explanation of accepted changes	
Explanation of rejected changes	
Your thoughts on the corrections	

Prompt 3: Connectors

Paste Copilot's text with vocabulary corrections	
Original text	
Prompt	<p>You are a university professor of Spanish as a foreign language.</p> <p>You are teaching a writing course at a Danish university. I have written a text for you belonging to the genre 'blog entry'. You must correct the discourse connectors</p>

	<p>used in the text and give me the explanations corresponding to each correction in Spanish. Your corrections and explanations must be high quality and accurate, but tailored to my educational learning context, level B2 in writing according to the CEFR, so that they are understandable to me. Underline the corrections you make so that they are easier to identify. Correct and show the differences sentence by sentence, indicating the original sentence and the corrected sentence. The target audience for my text is casual readers of the blog where it will be published.</p> <p>The text is as follows: ‘’.</p>
<p>Paste here Copilot’s answer</p> <p>Mark the changes you have accepted in green</p> <p>Mark the changes you have NOT accepted in red</p>	
Explanation of accepted changes	
Explanation of rejected changes	
Your thoughts on the corrections	

Prompt 4: Discourse genre

Paste Copilot’s text with connectors corrections	
Original text	
Prompt	<p>You are a university professor of Spanish as a foreign language. You are teaching a writing course at a Danish university. I have written a text for you belonging to the genre ‘blog entry’. You must indicate whether you consider the text to be suitable for a blog post and suggest modifications regarding the appropriate style and structure of the text, rather than its content, and give me the explanations corresponding to each correction in Spanish. Your corrections and explanations must be high quality and accurate, but tailored to my educational</p>

	<p>learning context, level B2 in writing according to the CEFR, so that they are understandable to me. Underline the corrections you make so that they are easier to identify. Correct and show the differences sentence by sentence, indicating the original sentence and the corrected sentence. The target audience for my text is casual readers of the blog where it will be published.</p> <p>The text is as follows: ‘’.</p>
<p>Paste here Copilot’s answer</p> <p>Mark the changes you have accepted in green</p> <p>Mark the changes you have NOT accepted in red</p>	
Explanation of accepted changes	
Explanation of rejected changes	
Your thoughts on the corrections	

Final thoughts

Write a short review of this activity. You are free to give your opinion on any topic you like. For example, you can mention how you feel about the activity, what you thought of the explanations and corrections, whether you found them useful, whether you think it is better to do it with your classmates, whether you think it is useful in certain contexts, etc.