

Cuadernos de Investigación Educativa

Lourdes Cardozo Gaibisso

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Recibe y publica artículos originales en español e inglés, referidos a contextos y niveles educativos diversos, entre los que se destacan las contribuciones de proyectos de investigación con evidencia empírica, así como las revisiones de literatura con resultados críticos y reflexivos sobre los avances de un tópico determinado, que den cuenta de hallazgos relevantes y de interés para la comunidad científica regional e internacional.

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Presentación

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The field of TESOL (Teaching English to Speakers of Other Languages) is continually evolving, socially, culturally, and pedagogically. In response to these dynamic challenges, teacher professional learning (also called professional development) has evolved alongside the field; though, such professional development tasks have faced criticism for failing to be grounded in specific contexts. For instance, teachers across the globe face challenges in adapting to diverse student backgrounds, addressing differing language proficiency levels, and integrating culturally relevant materials into their instruction.

However, their specific contexts (such as urban/rural, socio-economic divides, infrastructure, and policy environments) mediate their experiences and how they imagine possible changes. In this special issue, which features articles from Uruguay, the United States of America, Argentina, Chile, Colombia, and Vietnam, we present models of teacher professional learning, which are sustainable, responsive, and critically oriented with the goal of contributing to the conversation of what kinds of supports work, for whom, and in which contexts.

This special issue opens with the article "Experiences of Professional Development and Learning for K-12 English Language Teaching Professionals" in which Luciana C. de Oliveira emphasizes that ongoing professional development is essential throughout a teacher's career. de Oliveira describes two US-based programs in Colorado and Maryland focusing on a functional approach to language development aligned with WIDA standards. Her work highlights the importance of contextualized professional development and learning (PDL) activities guided by core principles that provide support for teacher's work on a functional approach to language development.

Next, Gabriel Diaz Maggioli's article *"Exploring Reticence to Write in L2: Notes for Teachers' Professional Development"* investigates Uruguayan secondary EFL teachers' beliefs about students' reluctance to write in English. Through a survey-based study, the article shows that most of the students in the sample lack the confidence, vocabulary, and practice in the early stages of writing in L2, which affects their willingness to produce written work. Although teachers in the study use a variety of process-oriented approaches to writing instruction, but they feel constrained by limited time and the curriculum demands. These results may suggest the need for more structured writing instruction and specific interventions in the curriculum. In terms of professional development, the study also reveals that a significant proportion of teachers in the sample do not feel prepared to teach writing, highlighting the importance of designing and conducting specialized workshops on writing pedagogy.

Cory Buxton, Francisca Marrs Belart, and Diana Crespo-Camacho present a community- and place-based teacher professional development model in their article *"'Smart forestry' as a Community-Based Teacher Professional Learning to Support ESOL Practices"*. This innovative framework integrates content-area language skills with science and STEM education through locally relevant topics. The project demonstrates how teachers can build cultural connections while strengthening language and science instruction simultaneously, emphasizing the importance for content teachers to incorporate language development into their practice.

The study *"Social Relevance of EFL Digital Resources: Cultural, Linguistic, Pedagogical, and Semiotic Perspectives"*, developed by Wilder Yesid Escobar-Alméciga, Claudia Ortiz-Yee, and Daniel Hernando Rojas-Rodríguez explores the cultural, linguistic, pedagogical, and semiotic dimensions of a digital platform used for an undergraduate Bilingualism and Bilingual Education program in Colombia. Findings highlight that multimodal analysis helps future teachers identify areas for improvement, such as balancing visual and verbal cues. However, the platform often reinforces stereotypes and lacks intercultural engagement, limiting authentic language learning experiences, which points to the need for more culturally inclusive digital resources.

Max Vazquez Dominguez, Winnifred Namatovu, Sheri Hardee, and Romola Bernard, in their article *"Bridging Bilingual Teacher Preparation to Professional Development in Science and Engineering Education"* describe how bilingual educators in the United States co-designed a summer program emphasizing culturally and linguistically sustaining pedagogies for teacher professional learning. The program leverages teachers' assets, promotes reflective practice, and fosters collaboration, effectively bridging preservice training and in-service teaching practices. This approach aims to promote sustainable, equitable, and culturally relevant science and engineering instruction, empowering teachers to effectively leverage students' linguistic and cultural assets. The study also highlights how teacher collaboration and reflection are important forces for translating theory into classroom practice, ultimately enhancing educational outcomes in diverse settings.

"EFL Teacher Education: Exploring Professional Growth through Padlet and Reflection Integration", an article written by Hà T. V. Nguyễn and Quang Nam Pham, explores how implementing Padlet and reflective practices in a TESOL Master's program impacts student teachers' professional development. The study collected data from 14 student teachers, and the findings indicate that this pedagogical approach

positively influences student-learning experiences, enhances collaboration, and contributes to the development of their TPACK and teacher identity.

In their article, *"Conducting Online Courses for the Professional Development of English Teachers: Integration of Synchronous and Asynchronous Components"*, Cristina Banfi, Analía Esquerré, and Monica Frenzel highlight important design choices for a successful synchronous/asynchronous online English teacher training course. The authors argue that design should include activities that explicitly give teachers opportunities to implement new practices and strategies into their pedagogies. For instance, training should provide a space for teachers to grow professionally in both pedagogy and language through hands-on practice, collaboration with other teachers and experts, and structured reflection. Additionally, training should take into account practical use of technology based on Universal Design principles and responsive to the diverse needs and backgrounds of both teachers and students. Professional development design should also incorporate a plan for formative and ongoing assessment.

In the final article *"Sustainable Strategies in ESOL Teacher Development: Connecting Theory, Practice, and Community"*, I highlight the urgent need for ongoing, contextually relevant professional growth that bridges theory and practice amid a rapidly evolving educational landscape. Driven by increasing linguistic diversity, unique challenges across rural and urban settings, ESOL demands innovative approaches such as place-based programs, community involvement, culturally responsive pedagogy, and digital competency. Effective professional development must be sustained, collaborative, data driven, and adaptable, fostering a culture of continuous improvement supported by policy, reflection, and research. The importance of understanding teachers' perceptions, addressing diverse learner needs, and leveraging communities of practice and inquiry amplifies the impact of well-designed initiatives.

The contributors in this collection believe that, by connecting theory and practice, promoting collaboration, and celebrating the local, teacher education can be a lifelong, continuous process that is sustainable, invigorating for teachers, and beneficial for multilingual students. I am delighted to serve as the guest editor for this collection, to share these articles, and to continue the conversation in an effort to further support teachers. I hope readers find in these narratives the power of current practice alongside the challenges of future ESOL teacher professional learning, both of which are vital to building a strong foundation for dynamic and inclusive school communities that are ready to meet the needs of multilingual learners worldwide.

Experiences of Professional Development and Learning for K-12 English Language Teaching Professionals

Experiencias de desarrollo profesional y aprendizaje para docentes de inglés en los niveles de educación primaria y secundaria

Experiências de desenvolvimento profissional e aprendizagem para professores de inglês da educação básica

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Abstract

It is essential for teachers and leaders to engage in professional development and learning activities that continuously develop their knowledge base of English language teaching. Effective professional development requires thoughtful planning that engages local contexts. The more professional development and learning that teachers engage in, the more likely their students are to succeed and the more likely they are to be effective and fulfilled in their careers. In this article, the term professional development and learning (PDL) is used as a continuing process that should be considered across a teacher's career. Expanding teachers' knowledge and pedagogical skills is at the core of many PDL activities, providing opportunities for exploring new ideas, putting them into practice, and reflecting on applications to practice. This article describes two experiences of PDL in collaboration with two school districts in two different states—Colorado and Maryland—in the United States. Both of these experiences focus on supporting their work with a functional approach to language development as school districts around the U.S. are applying this approach as part of the WIDA 2020 English Language Development Standards implementation. Five key guiding principles were used to guide the development of PDL activities with school districts and our continuing collaboration.

Keywords:

professional development, learning, elementary education, secondary education, English language development standards, collaboration.

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Resumen

Es esencial que los maestros y líderes participen en actividades de aprendizaje y desarrollo profesional que desarrollen continuamente su base de conocimientos sobre la enseñanza del idioma inglés. El desarrollo profesional eficaz requiere una planificación cuidadosa que involucre los contextos locales. Cuanto más desarrollo profesional y aprendizaje realicen los docentes, más probabilidades tendrán sus estudiantes de tener éxito y de ser eficaces y realizados en sus carreras. En este artículo, el término desarrollo y aprendizaje profesional (PDL) se utiliza como un proceso continuo que debe considerarse a lo largo de la carrera de un docente. Ampliar el conocimiento y las habilidades pedagógicas de los docentes es el núcleo de muchas actividades de PDL, brindando oportunidades para explorar nuevas ideas, ponerlas en práctica y reflexionar sobre sus aplicaciones a la práctica. Este artículo describe dos experiencias de PDL en colaboración con dos distritos escolares en dos estados diferentes —Colorado y Maryland— en los Estados Unidos. Ambas experiencias se centran en brindar apoyo a su trabajo sobre un enfoque funcional para el desarrollo del lenguaje, ya que los distritos escolares de los EE. UU. están aplicando este enfoque como parte de la implementación de los Estándares de Desarrollo del Idioma Inglés WIDA 2020. Se utilizaron cinco principios rectores clave para guiar el desarrollo de actividades de PDL con los distritos escolares y nuestra colaboración continua.

Palabras clave:

desarrollo profesional, aprendizaje, educación primaria, educación secundaria, estándares de desarrollo del idioma inglés, colaboración.

Resumo

É essencial que professores e líderes se envolvam em atividades de desenvolvimento profissional e aprendizagem que aprimorem continuamente sua base de conhecimentos sobre o ensino da língua inglesa. O desenvolvimento profissional eficaz requer um planejamento cuidadoso que envolva os contextos locais. Quanto mais os professores se engajarem em atividades de desenvolvimento profissional e oportunidades de aprendizagem, maior será a probabilidade de serem eficazes e realizados nas suas carreiras e maior será também a probabilidade de seus alunos terem sucesso. Neste artigo, o termo desenvolvimento profissional e aprendizagem (PDL, na sigla em inglês) é utilizado como um processo contínuo que deve ser considerado ao longo da carreira de um professor. A expansão do conhecimento e das competências pedagógicas dos professores está no centro de muitas atividades de PDL, proporcionando oportunidades para explorar novas ideias, colocá-las em prática e refletir sobre suas aplicações na prática. Este artigo descreve duas experiências de PDL em colaboração com dois distritos escolares em dois estados diferentes nos Estados Unidos: Colorado e Maryland. Ambas as experiências se concentram em fornecer apoio ao seu trabalho com uma abordagem funcional para o desenvolvimento da linguagem, já que os distritos escolares dos EUA estão aplicando essa abordagem como parte da implementação dos Padrões de Desenvolvimento da Língua Inglesa da WIDA 2020. Cinco princípios orientadores principais foram usados para orientar o desenvolvimento de atividades de PDL com os distritos escolares e nossa colaboração contínua.

Palavras-chave:

desenvolvimento profissional, aprendizagem, ensino fundamental, ensino médio, padrões de desenvolvimento da língua inglesa, colaboração.

Introduction

In a constantly-evolving profession such as English language teaching, it is essential for teachers and leaders to engage in professional development and learning activities that enable them to develop their understanding of theoretical pedagogical frameworks and practical teaching methods. Despite the many activities that teachers engage in on a daily basis, in-service teachers need to continue learning and to develop personally and professionally as well as to become life-long learners. Effective professional development requires thoughtful planning that combines current research with consideration for local contexts, addressing the specific needs of teachers (Cirocki *et al.*, 2023). Research shows that the more professional development and learning that teachers engage in, the more likely their students are to succeed and the more likely they are to be effective and fulfilled in their careers (Cirocki *et al.*, 2023; Christison & Murray, 2022).

Professional development and professional learning are often used interchangeably, and both terms refer to any activity that teachers take part in as a component of their continuous training. Professional development, as a continuous professional development (CPD) process is differentiated from professional learning in that CPD covers all activities that contribute to changing the attitudes and behaviors of language teachers, while professional learning is the output or result of these activities (Christison & Murray, 2022). CPD, then, should be "an interactive process that takes place among engaged professionals" (Christison & Murray, 2022, p. 210) over a sustained period of time. In this article, I employ the combined term professional development and learning (PDL) as a process that is continuous and that is best considered as taking place over the span of a teacher's entire career. The essence of many PDL activities is an expansion of teachers' knowledge and pedagogical skills with opportunities to try out new ideas, implement them in practice, and reflect on how well they work.

This article describes two instances of PDL carried out in collaboration with school districts from two different U.S. states. Both experiences focus on supporting the implementation of a functional approach to language development as school districts around the U.S. are applying this approach as part of the WIDA 2020 English Language Development Standards (henceforth, WIDA Standards or the Standards Framework; WIDA, 2020) implementation. The PDL activities described in this article drew on five key principles, described next.

Principles for Professional Development and Learning

Effective PDL activities draw on five guiding principles (Coombe, de Oliveira, & Rafi, 2025). These principles were used to guide the development of PDL activities with school districts and our continuing collaboration.

Principle 1: Significant and ongoing PDL builds on a foundation of knowledge and skills

PDL is rooted in what language teachers already know and are able to do, providing opportunities for language teachers to make connections between new information and activities with their existing knowledge and skills. Therefore, it is crucial that teachers' experiences, needs, and backgrounds are considered when planning and implementing PDL. PDL should not consist of one-time workshops or webinars that are not meaningful to teachers' real-world practices. In other words, PDL should be needs-based, informed by developments in the field, and grounded in teachers' ongoing professional growth.

Principle 2: PDL should provide concrete examples through active participation

PDL should provide teachers with a range of meaningful learning opportunities as members of professional learning communities. Learning with and from colleagues involves active collaboration with other teachers to gain knowledge and skills and to learn new practices. Modeling is another effective strategy in PDL, as it allows teachers to observe specific practices being demonstrated and then apply them in their own classrooms. Connected to the first principle, the opportunity to rehearse and follow up on what has been learned is important, underscoring the role of follow-up activities.

Principle 3: PDL includes continuing support during implementation and reflection

PDL also should incorporate follow-up assistance as language teachers implement and reflect on specific classroom techniques. Other active learning opportunities include cooperative decision-making, collegial support groups in which peers work together, and mutual concern for teaching issues, among others.

Principle 4: PDL is based on a research base, aligned with standards and curricula

Research should underpin PDL activities. When based on research, PDL promotes specific practices that have been shown to be effective for particular groups of students. It is important to map PDL to standards and curricula, so that language teachers can understand how the PDL content can be used to address standards as they work with the curricula in use.

Principle 5: PDL should be offered through a variety of formats

PDL opportunities should take many forms and not be limited to the more formal PDL opportunities. These can include, but are not limited to: attending conferences, participating in classroom observations, engaging in individual reading or book clubs, working on standards development, curriculum and assessment projects, and participating in peer inquiry groups, among others.

The use of these principles guided our collaborative teamwork approaches to plan and deliver the PDL activities with school districts. While many PDL models may reflect a deficit-driven approach, our planning and careful consideration of teachers' existing knowledge as a valued component helped sustain our collaboration and the development of continued, ongoing opportunities. Next, I provide the context for each school district.

Context for PDL Activities

Adams 12 Five-Star Schools in Colorado

My collaboration with the Adams 12 school district began in Spring 2023 when they approached me about working with English Language Development (ELD) leaders as they began developing a curriculum that integrates a functional approach for a designated ELD context. A designated ELD context refers to a set time during the school day when students classified as Non-English Proficient (NEP) or Limited English Proficient (LEP) receive targeted instruction to develop their English language skills. Adams 12 is a relatively small school district, with a total of 35,000 students. About 5,000 students are classified as NEP or LEP—also commonly referred to as English learners (ELs). These language proficiency designations apply to students who do not speak English as their primary language and therefore qualify for specialized language instruction. These students require additional support to develop their ability to read, write, speak, and understand English, and to participate fully in class. About 17% of the student population in the district is classified as NEP or LEP. A total of 6,200 students are multilingual learners—this includes students who have exited the LEP designation. There are 101 languages spoken in the school district, making it extremely diverse in terms of linguistic background.

The ELD team was composed of five ELD coordinators and the Director of the Culturally and Linguistically Diverse Education team. They engaged in developing units of study incorporating a functional approach and shared them with me for feedback. We met several times during the semester to discuss my feedback, and they made further revisions. In September 2024, I conducted an eight-hour PDL session on-site with over 100 ELD teachers from the school district. This was followed by additional work on the curriculum developed by ELD leaders and my continued feedback throughout the year. In October 2024, we gave two joint presentations at the WIDA 2024 Annual Conference, in which we shared sample units and discussed the progress of implementation. The units are being refined now and we will be presenting

at the WIDA 2025 annual conference sharing results of curriculum implementation in the school districts and further refinements based on implementation by teachers. We are also working on disseminating the results through book chapters (see de Oliveira *et al.*, in press; de Oliveira *et al.*, in preparation) and articles.

Montgomery County Public Schools in Maryland

My collaboration with Montgomery County Public Schools (MCPS) began in Fall 2023. The ML Director attended a presentation I gave at the WIDA 2023 Annual Conference and contacted me shortly after to plan our collaboration. MCPS is the largest school district in Maryland, with 159,671 students attending. With over 32,000 students classified as ELs, MCPS has the second-largest ML/EL population in the state.

This collaboration has consisted of two two-day PDL sessions and ongoing planning as the district implements a functional approach in schools. The first session, conducted in April 2024, was offered to ELD and content central office members. The second two-day session took place in May 2024 and included summer facilitators such as ELD teachers, staff, and content teachers. They focused on developing their knowledge base to plan summer sessions for the entire school district, which led to local planning and facilitation of summer professional learning for all 6–12 instructional leadership teams. All instructional leadership teams from 40 middle schools and 25 high schools were invited to attend. A total of 1,346 leaders attended the PDL sessions facilitated by the ELD team in June and July. We shared some of the outcomes of the PDL sessions and ongoing classroom work at the Maryland TESOL Annual Conference in November 2024.

All PDL sessions for both districts focused on a functional approach in the context of the WIDA (2020) Standards. Next, I contextualize the work on this approach and its importance in the context of WIDA (2020).

A Functional Approach to Language Development in the WIDA 2020 ELD Standards Framework

All PDL sessions and activities with both school districts focused on developing ELD leaders and teachers' knowledge of a functional approach to language development, guided by the five principles. To build on Principle 1, we used a foundation grounded in systemic functional linguistics (SFL) (Halliday & Matthiessen, 2014), focusing on ways of engaging students in exploring meaning in texts through classroom discussions and explicit attention to language. SFL is a social semiotic theory that views language as a resource for meaning-making in context to achieve social purposes (de Oliveira & Westerlund, 2021; de Oliveira & Schlepppegrell, 2015; Schlepppegrell, 2024). We use language for various purposes connected to situations, which realize systematic patterns of choices. This approach provides a metalanguage (Moore & Schlepppegrell, 2014) for talking about the meanings in the choices authors make. A functional approach enables teachers to identify language patterns in order to help multilingual learners see how language works. Teachers and students explore authentic texts in

their original form, without simplification. We drew on teachers' experiences, needs, and backgrounds to plan and deliver PDL activities as more than single workshops.

To implement *Principle 2*, we planned for active participation and engagement as a community of learners. ELD leaders and teachers engaged with one another and participated actively in understanding and learning about practices for a functional approach. Principle 3 involved ongoing support during implementation and reflection on the PDL. With the publication of the WIDA Standards, the importance of adopting a functional approach has become even more evident. WIDA 2020 presents four Big Ideas that outline the essential components for creating culturally and linguistically sustaining learning environments where MLs can thrive and succeed. The new edition reaffirms a renewed commitment to equity for MLs through harnessing their linguistic and cultural strengths, integrating content and language in collaborative contexts, and making language visible through a practical, functional lens. The core principle, "A Functional Approach to Language Development," underscores that language is not only a means of communication but also a resource for establishing roles and relationships and for engaging with the world.

WIDA (2020) was grounded in a strong research base and aligned with the new standards, illustrating principle 4 as a key component of our collaboration with the school districts. *Principle 5* was at the core of all PDL activities, as we engaged with school districts in specific sessions, participated and co-presented at conferences, participated in curriculum development alongside leaders. The following section highlights key ideas related to the functional approach that emerged from our collaboration.

An Explicit Pedagogy at the Core of Learning

Our goal is to involve MLs in examining how language is utilized and how meanings are conveyed in texts (de Oliveira *et al.*, 2021; Harman, 2018). This approach offers educators a clear instructional strategy that places language at the center of the learning process. Viewing language development in this way involves understanding how the new language can be used to construct meaning for specific purposes across diverse contexts.

A functional approach promotes the development of *academic language* used for educational purposes by recognizing that it exists on the same continuum and arises from the same repertoire as everyday language used for communication in daily life (de Oliveira & Westerlund, 2021). By focusing on whole texts, a functional approach addresses academic language as more than just vocabulary. We advocate against pre-teaching vocabulary outside of texts and disconnected from the contexts in which the words occur (see Molle, de Oliveira, MacDonald, & Bhasin, 2021, for a full discussion on leveraging incidental and intentional vocabulary learning to support multilingual students' disciplinary participation).

One of the key notions in a functional approach is *genre*, understood as culturally expected patterns of texts (Brisk, 2022; de Oliveira, 2023a; Gebhard, 2019) that reflect a recurring configuration of meanings and are described as staged, goal-oriented social processes. While *genre* reflects the broader cultural context, *register* refers to the immediate situational context. *Register* includes *field*, *tenor*, and *mode*. *Field* relates to

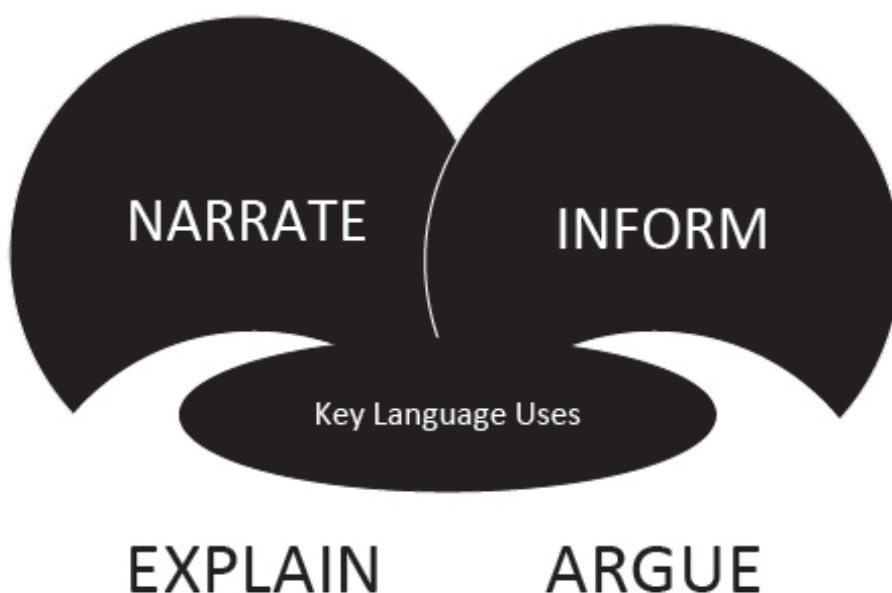
the topic and content of the *text*. *Tenor* involves the roles and relationships among the people engaged in the *text*. *Mode* describes how the message is delivered, such as via email, spoken word, presentation, blog, or other communication channels. These three dimensions of *register* are always present in each instance of language use and help shape the overall message.

WIDA Key Language Uses

Within the WIDA Standards, functional language is depicted at the level of *genre families* through the *Key Language Uses*, and at the level of *register* through *language functions* and *features* that illustrate the *Language Expectations*. The *Key Language Uses* (see Figure 1) embody the core concept of the *Big Idea: Functional Approach to Language Development*.

Figure 1

Key Language Uses



Key Language Uses share some common features across different disciplines, but each discipline also has distinct ways of applying them. Below are brief definitions for each Key Language Use:

- Narrate emphasizes language that is used to communicate real or imaginary experiences through stories and histories. Narratives serve various purposes, such as instructing, entertaining, teaching, or supporting argumentation.
- Inform focuses on language used to present factual information. When students convey information, they define, describe, compare, contrast, organize, categorize, or classify concepts, ideas, or phenomena.
- Explain highlights language used to account for how things work or why things happen. In explaining, students justify the inner mechanisms of natural, technological, or social phenomena.

- Argue emphasizes language used to justify claims with evidence and reasoning. Argumentation can be used to support or defend an idea, change perspectives, prompt action, or evaluate and accept a position on an issue.

The Teaching–Learning Cycle

The TLC is an approach to teaching that provides MLs with explicit knowledge about language in the service of a functional approach to writing. It responds to the principle of “guidance through interaction in the context of shared experience” (Martin & Rose, 2005, p. 253). That is, teachers guide students in speaking, reading, and writing about a particular text in the context of a shared activity (e.g., shared text, field trip, movie, science experiment, or reading) rather than about a particular experience that is individual to students. Shared experience is a fundamental principle for MLs.

The TLC includes activities to guide students through building shared knowledge of the topic, sustained reading, deconstruction, joint construction, collaborative construction, and independent construction (de Oliveira, 2023b). Students can enter the TLC at any point, and teachers may begin at any phase of the process; however, the first phase involves establishing shared knowledge of a new genre. If teachers follow these phases, students are then ready to write in the targeted genres. The assignment of a topic or prompt and request for a written response does not teach writing. It assesses students' writing capabilities, but this does not constitute teaching. This process may be recursive and revisited as students become more familiar with particular genres.

Context is set at each stage to help students understand the situation for writing in a particular genre and context. Building shared knowledge of the topic is a pivotal phase because students expand their understanding of the content and context of texts. Students also gain a critical perspective on language through learning about language features and genre conventions, and teachers assess students' understanding throughout all activity phases. The TLC provides students with teacher interaction, guidance, and support during the deconstruction phase. Brisk (2022) and de Oliveira (2017) introduced an optional collaborative construction phase based on their recent research with K–5 students, as shown in Figure 2 next to the independent construction phase. Collaborative construction can be an additional step within the TLC, as described in de Oliveira *et al.* (2020).

The TLC responds to conceptualizations that writing is a process through which drafting, free writing, and developing a writer identity are emphasized and all that it takes to be a successful writer, major components of Lucy Calkins' writer's workshop, a popular writing approach in the United States (Westerlund & Besser, 2021). The TLC, in contrast, develops students' knowledge of how language works to make meaning in genres and through language resources.

Figure 2

The Teaching and Learning Cycle



Note. Based on de Oliveira, 2023b.

The TLC is highly effective for extended units of study but can also be applied to a shorter series of lessons over one or two weeks. The instructional practices used within each phase are flexible and can be adapted to fit your classroom. The focus of each phase is the whole text rather than single sentences or vocabulary lists so that teachers can scaffold students' knowledge and understanding of school genres across subjects.

Building Shared Knowledge of the Topic involves having students discuss the focus of the upcoming activities, share what they know about the topic, and build shared understandings. Having this shared knowledge ensures that all students can contribute to content discussions.

Sustained Reading involves carefully reading selected texts to build knowledge of the topic and enrich MLs' experiences. Teachers can use a range of reading strategies during this phase such as reading aloud, modeled reading, shared reading, guided reading, collaborative reading, and independent reading. During this phase, students analyze excerpts or short texts containing important content related to state standards, discuss how the authors used language to accomplish their purpose, and then analyze elements of the text to understand what to look for.

Following the reading, the teacher guides students in analyzing elements of the text to help them see what was important to the author.

During Deconstruction, the teacher provides a mentor text related to the specific genre, such as procedural recounts, descriptive reports, or discussions. The teacher leads students in analyzing the mentor text through demonstration and discussion of the purpose, stages, and typical language features while building students' content knowledge and setting the context. These mentor texts are projected for the whole class and distributed to each student. During this phase, students develop a shared metalanguage for discussing texts (terms related to genre purpose, stages, and language features).

Joint Construction is where the teacher and students co-write a text in the same genre. The teacher and students co-construct texts similar to the mentor texts using the language features and structure studied. The teacher models while writing and guides students in choosing words, phrases, and sentences. This activity helps students see what it takes to write a good text in that genre, and the teacher facilitates and encourages contributions from all students. Through joint construction, students learn about the decisions involved in writing and in how to use language deliberately.

Collaborative Construction may serve as a transitional phase between joint and independent writing. It is particularly useful for students in grades K–2 who are beginning writers and need additional support in tackling challenging genres. During this phase, students work in pairs or small groups to brainstorm, draft, revise, and finalize a shared text—led by the teacher, as outlined in Jones and de Oliveira (2022).

Independent Construction is the final phase, where students write their own texts in a specific genre. The teacher takes a step back and provides minimal support to encourage independent writing. If students are writing on a new topic in the same genre, they may need to do additional research before writing. This phase helps students apply and practice their genre knowledge and writing skills independently.

Conclusion

With the inclusion of a functional approach in the WIDA (2020) Standards Framework, renewed attention to language development from a functional perspective has brought the need to provide school districts with additional information about this approach, and how it supports MLs in continuing to develop their language skills. Planning PDL activities alongside leaders and teachers has been an important step toward a successful model of sustained collaboration. While our collaboration is still ongoing, this article has shown some of the ways the PDL principles were used to design activities.

This article described two collaborative experiences with school districts in Colorado and Maryland. While the districts differ in overall student population and in the number of MLs specifically, both experiences provided support for implementing a functional approach to language development aligned with WIDA 2020. Both school districts' commitment to supporting MLs and their teachers has been evident from the beginning of our collaboration, and it continues to guide our shared work toward sustaining a clear focus on continued learning and development.

Teachers are independent, lifelong learners who benefit from PDL activities that refine their skills and offer strategies to apply the knowledge they develop. Working with

teachers to apprentice them into the TLC through PDL activities is essential so they can support their MLs in deconstructing texts and drawing on mentor texts when learning new genres. MLs will then be able to independently go through these steps as they encounter different types of texts throughout their lives. With scaffolding from teachers through the TLC during the course of K–12 education, MLs should be able to employ a wide range of genres for a variety of social purposes (Derewianka & Jones, 2016). As writing has become crucial to nearly every area of life—academic, social, or professional (National Commission on Writing, 2017)—it is imperative that we prepare teachers to critically address writing instruction in their classrooms. Genre-based pedagogy is a successful and flexible approach to writing instruction that teachers can adapt and implement to prepare K–12 students for their future academic and career paths.

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Luciana C. de Oliveira is the single author of this article. She was responsible for conceptualization and writing of the full article.

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Exploring Reticence to Write in L2: Notes for Teachers' Professional Development

Explorando la reticencia a escribir en una L2:
notas para el desarrollo profesional docente

Explorando a relutância em escrever em L2:
notas para o desenvolvimento profissional de professores

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Abstract

Developing writing proficiency is essential to communicative competence in foreign language learning, yet Uruguayan public secondary students frequently display reluctance toward writing in English, as noted by their teachers. This study investigates EFL teachers' perceptions regarding student engagement in writing, aiming to determine the prevalence and underlying causes of the identified reticence, as well as the instructional practices teachers employ to address it. Utilizing a descriptive, survey-based approach, the study collected 58 responses—about 5% of Uruguay's public EFL teaching population—via an electronic questionnaire. The instrument comprised both multiple-choice and open-ended questions to enable quantitative and qualitative analysis. Results reveal that 52.8% of teachers view students as generally reticent to write in English, while 47.2% observe partial reluctance. Contributing factors include students' low confidence, restricted vocabulary, inadequate early exposure to writing, and lack of engagement with tasks perceived as irrelevant to their interests. While 94% of teachers dedicate class time to writing, many highlight time constraints and curricular requirements as significant barriers to adopting a more systematic approach. The process approach to writing (47%) is the most widely implemented methodology, followed by the product approach (11.7%), with just 5.8% using a genre-based approach. Notably, 11.7% of teachers report unfamiliarity with any writing pedagogy. The findings underscore the need for greater emphasis on process- and genre-based writing instruction in EFL classrooms. Future research

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should examine the effectiveness of specific pedagogical interventions, explore student perspectives on writing reluctance, and consider the role of teacher training in improving writing outcomes in EFL contexts.

Resumen

La competencia escrita es esencial para lograr una comunicación eficaz en lenguas extranjeras, pero muchos estudiantes de secundaria pública en Uruguay muestran reticencia a escribir en inglés, según la percepción de sus docentes. Este estudio investiga cómo los profesores de inglés como lengua extranjera valoran el compromiso de sus alumnos con la escritura, indagando tanto la frecuencia como las causas de dicha reticencia, así como las estrategias pedagógicas utilizadas para superarla. Mediante una encuesta descriptiva respondida por 58 docentes —cerca del 5 % del total nacional— se recabaron datos cuantitativos y cualitativos a través de preguntas cerradas y abiertas. El 52,8 % de los docentes considera que sus estudiantes son poco propensos a escribir en inglés, mientras que un 47,2 % detecta una reticencia parcial. Factores asociados a esta dificultad incluyen la baja confianza en capacidades propias, escaso vocabulario, limitada exposición temprana a la escritura y desinterés por tareas poco relacionadas con sus intereses. Si bien el 94 % de los docentes destina tiempo a la escritura en sus clases, muchos mencionan la falta de tiempo y las demandas curriculares como trabas para una enseñanza más estructurada. El enfoque por procesos es el más frecuente (47 %), seguido por el enfoque por producto (11,7 %), mientras que solo un 5,8 % utiliza el enfoque basado en géneros. Un 11,7 % admite desconocer enfoques didácticos específicos. Los resultados resaltan la necesidad de promover prácticas sistemáticas centradas en procesos y géneros. Se recomienda profundizar en la formación docente y explorar nuevas estrategias para fortalecer la producción escrita en inglés.

Resumo

Desenvolver a proficiência na escrita é fundamental para a competência comunicativa em línguas estrangeiras, mas muitos estudantes do ensino médio público uruguaio costumam mostrar relutância em escrever em inglês (L2), segundo relatam seus professores. Este estudo analisou as percepções de professores de inglês sobre o engajamento de seus alunos na comunicação escrita, buscando identificar a frequência e as causas da relutância, bem como as estratégias pedagógicas utilizadas para enfrentá-la. Utilizou-se um questionário descritivo enviado a professores de inglês da rede pública; foram recebidas 58 respostas, representando cerca de 5% do total de docentes de ILE (inglês como língua estrangeira) do Uruguai. O instrumento incluiu questões fechadas e abertas, permitindo análises quantitativas e qualitativas. Os resultados mostram que 52,8% dos professores percebem grande relutância dos alunos para escrever em inglês, enquanto 47,2% notam uma relutância parcial. Os fatores mais citados são: baixa autoconfiança, vocabulário limitado, pouca experiência prévia com a escrita e desinteresse por tarefas pouco conectadas à realidade dos alunos. Embora 94% dos docentes dediquem tempo à escrita na sala de aula, muitos relatam falta de

Keywords:

algorithmic thinking, higher education students, educational assessment, confirmatory factor analysis, STEM education.

Palabras clave:

enseñanza de la escritura en inglés como lengua extranjera, reticencia a la escritura, percepciones docentes, currículo, educación en lengua extranjera.

tempo e exigências curriculares como barreiras para um ensino mais estruturado. O enfoque processual é o mais usado (47%), seguido pelo enfoque no produto (11,7%); só 5,8% utilizam a abordagem baseada em gêneros, e 11,7% admitem não conhecer metodologias didáticas específicas. Os dados indicam a necessidade de fortalecer práticas de ensino de escrita baseadas em processos e gêneros. Recomenda-se aprofundar na formação docente e explorar novas estratégias para fortalecer a produção escrita em inglês.

Palavras-chave:

ensino da escrita em inglês como língua estrangeira, relutância em escrever, percepções dos professores, currículo, educação em língua estrangeira.

Introduction

This article reports on a pilot study undertaken to assess the veracity of an often-heard perception by teachers regarding the learning of writing in public secondary schools in Uruguay.

English is the main foreign language taught at the secondary level, and students are expected to attain a B1 level at the end of six years of secondary studies. However, the attainment of this level is still under analysis. One of the frequently heard complaints by teachers is that students in public secondary schools are reticent to write. They cite as evidence the fact that most of the students in their various groups fail to complete the written tasks set either as homework or as part of the paper-based assessments.

However, these claims have so far been met with skepticism by national authorities and have not been systematically addressed by research. Developing proficiency in a foreign language includes the mastery of three main modes of communication: interpretive (listening and reading), interpersonal (interactive speaking and listening), and presentational (writing and monologic speaking); hence, the relevance of this pilot study (Díaz Maggioli, 2024).

In light of this situation, the present study sought to understand the perceptions of English as a Foreign Language (EFL) teachers in public secondary schools, so as to confirm these widely held opinions or discard them. Once this understanding is obtained, it is hoped that the present pilot study may form the basis of a more extensive and longitudinal research project involving supervisors, teachers, and students alike.

Research Questions and Justification

The purpose of the study is to understand whether EFL teachers in public secondary schools in Uruguay consider their students choose not to engage with the development of the written presentational mode. Hence, the pilot project sought to answer the following questions:

1. Do EFL teachers in secondary schools in Uruguay perceive that their learners are reticent to write?
2. If so, why do they think that this is the case?
3. If not, what do they perceive as good practice in teaching writing?
4. What approaches to the teaching of the written presentational mode do teachers report implementing?

This project can be sustained in a number of reasons why the mastery of the written presentational mode is relevant in education, in general, and in EFL teaching and learning in particular. In the next section, there is a discussion of these reasons using evidence from previous research on the relevance of the research questions.

Theoretical Background

Research in L2 writing was intensively pursued in the last three decades of the twentieth century. Since then, a number of studies have shed light on the complexity of this mode of communication. The following section explores some theoretical developments, mostly in the first two and a half decades of the twenty-first century, without losing sight of the foundational ideas that have propelled research on writing to its current status.

Developing writing skills is crucial in foreign language education. Proficiency in writing enables learners to effectively convey ideas, emotions, and information, thereby enhancing their overall communicative competence. This skill does not only facilitate academic success but also prepares students for real-world interactions where written communication is essential.

Research has underscored the significance of writing in language learning. For instance, studies like that of Bayat (2014) found that employing process-based approaches, such as drafting and peer reviews, helped learners develop a sense of ownership and improved their writing efficacy. Similarly, a study highlighted in the *International Journal of Language Education* emphasizes that writing proficiency is vital for academic success, as it requires learners to employ their linguistic competence to generate ideas, select appropriate diction, and construct coherent texts (Suastra & Menggo, 2020).

Moreover, writing serves as a tool for learning, allowing students to organize and refine their thoughts. As noted in other studies (Jiang & Kalyuga, 2022), writing-to-learn activities help students internalize new information and enhance their understanding of the language. Additionally, integrating writing tasks with other language skills promotes a more holistic learning experience, reinforcing vocabulary and grammatical structures.

Incorporating writing into formal education also fosters critical thinking and creativity. Through writing, students engage in reflective practices, analyze diverse perspectives, and articulate viewpoints. This process not only bolsters their language abilities but also contributes to their intellectual growth.

Last, but not at all the least, research has shown that L2 writing instruction positively affected L1 writing performance, suggesting that developing writing skills in a foreign language can enhance writing abilities in one's native language (Mehrabian, 2014).

Challenges to the Teaching of Writing in Public Education

As we have seen, writing is a critical skill in second language (L2) acquisition, playing a fundamental role in both academic development and communicative competence. Despite its importance, students in Uruguayan public secondary schools often seem to exhibit reticence toward writing tasks, whether as part of coursework or formal assessments.

This reluctance is not unique to Uruguay but has been documented in various educational contexts worldwide, particularly in public education systems where systemic constraints and limited instructional innovation hinder the development of

the written presentational mode. Understanding this reluctance requires examining both cognitive and pedagogical dimensions of L2 writing, including the role of structured writing instruction, pre-task planning, writing as a social practice, and the interplay between L1 and L2 literacy. It is to a consideration of these different dimensions of the teaching of the written presentational mode that we now turn.

Writing as a Social and Cognitive Process

Traditionally, writing in L2 classrooms has been treated as an isolated skill, often relegated to grammar-focused drills or assessed through decontextualized written exercises. However, research highlights the importance of engaging students in meaningful, contextually relevant writing practices to foster motivation and skill development. Hayik (2023) demonstrates how integrating social justice themes into writing instruction—to document and write about real-life issues—can increase student engagement and improve written production. In a study with Palestinian-Israeli EFL learners, she found that students who were given the opportunity to write about social issues relevant to their lives produced more sophisticated and personally invested writing. This finding may indicate that Uruguayan students' reluctance toward writing could be alleviated by incorporating more personally meaningful and socially relevant writing tasks into the curriculum (Hayik, 2023).

Early Writing Exposure and the Role of Pedagogical Approaches

Whereas most students entering secondary public schools in Uruguay have had, at least, three years of EFL classes at the primary level, secondary educators insist that they arrive at that level without the necessary linguistic resources to engage in developing their language proficiency, particularly in what pertains to the development of writing.

A key challenge in secondary education is that many students do not receive adequate preparation for writing in their formative years, leading to frustration and avoidance of writing tasks in later stages of their education. Research by Moon (2008) highlighted that writing is often overlooked in primary L2 classrooms, leading to a disconnect between early language learning and later writing demands in secondary education. The study emphasized that writing should not be introduced solely as a means of language reinforcement or assessment but should be integrated with other language skills, such as reading and speaking, to foster holistic language development. This aligns with the perceived situation in Uruguay, where writing is often treated as a formal requirement rather than a communicative ability, potentially resulting in students' lack of confidence and reluctance to engage in writing tasks in secondary education.

Furthermore, Moon (2008) underscored the bidirectional relationship between L1 and L2 writing skills, supporting Cummins' (1981) Common Proficiency Model, which argues that skills acquired in one language can positively transfer to another. This suggests that Uruguayan students might benefit from explicit instructional strategies that build on their L1 literacy to develop L2 writing proficiency, rather than viewing them as separate domains.

The Teaching of Writing in Secondary Schools in Uruguay

The Uruguayan curriculum aligns writing instruction in English with the National Curriculum Framework (MCN) (ANEP, n.d., a), emphasizing a competency-based approach. Writing is considered one of the four fundamental language skills, and students are expected to produce coherent, structured, and contextually relevant texts. At the foundational levels (A1), students write simple descriptions about themselves, their families, and daily routines, while at more advanced levels, they are encouraged to express opinions, write argumentative texts, and engage in reflective writing. The curriculum promotes writing as a process, including drafting, revising, and receiving feedback, rather than just producing a final product.

Methodologically, the curriculum supports active learning strategies, such as project-based learning, collaborative writing, and the use of digital tools. Portfolios are recommended to track students' progress, and peer and self-assessment are encouraged to help students take ownership of their learning. Teachers are advised to integrate metalinguistic reflection, helping students understand language structures to improve accuracy and coherence. Additionally, writing tasks include various text types, such as reports, letters, blog entries, and job application materials, ensuring students develop diverse communicative skills (ANEP, n.d., b).

Despite these structured guidelines, teachers continue to report that students in Uruguayan public schools face significant challenges in developing writing proficiency in English. Limited exposure to the language, restricted classroom time, and a tendency to focus on memorized structures rather than fostering critical and creative expression seem to hinder their progress. Moreover, writing is often described in the curriculum documents (ANEP, n.d., a) as a final task rather than a recursive process, reducing opportunities for feedback and improvement. These issues highlight a potential gap between curricular expectations and actual classroom practices.

To address these challenges, the curriculum recommends strengthening process-based writing instruction, encouraging students to engage in continuous drafting and revision, and leveraging technology to enhance interaction and feedback.

Traditions and Approaches to the Teaching of Writing

The development of writing proficiency is a complex and multifaceted process that requires structured instructional support. Díaz Maggioli (2024) underscores the necessity of scaffolding students' writing development to facilitate the production of coherent, purposeful, and structured texts. He explores three predominant approaches to writing instruction: *the product approach*, *the process approach*, and *the genre-based approach*.

The product approach, rooted in structuralist traditions, emphasizes linguistic accuracy and correctness, guiding students to analyze and imitate model texts to internalize grammatical structures and stylistic conventions. While this method fosters textual accuracy, it has been criticized for limiting creativity and communicative effectiveness (Hyland, 2003).

The process approach, by contrast, conceptualizes writing as a recursive activity involving brainstorming, drafting, peer feedback, revising, and editing (British Council,

n.d.). This approach encourages students to develop their ideas over multiple iterations, promoting critical thinking and personal voice in writing (Zamel, 1987). However, its relative lack of emphasis on genre conventions may pose challenges for students attempting to write within specific academic or professional discourse communities.

Díaz Maggioli (2024) advocates for the adoption of a genre-based approach as a comprehensive framework that integrates the strengths of both product- and process-oriented instruction while addressing their respective limitations. Drawing on Systemic Functional Linguistics (Halliday & Matthiessen, 2004), this approach emphasizes the social and communicative functions of writing by guiding students through the analysis and production of different genres. The instructional process typically involves introducing a model text, deconstructing textual features, engaging students in guided writing activities, facilitating independent production, and finally, comparing texts within the same genre as well as across genres. Through this structured progression, students gain an understanding of how language operates within specific contexts, enabling them to navigate diverse communicative situations effectively (Martin, 2009). Furthermore, Díaz Maggioli (2024) highlights the importance of task-based writing activities that reflect authentic communicative needs, thereby ensuring that students not only develop linguistic competence but also acquire the discursive strategies necessary for effective communication in real-world contexts.

A key component of this approach is assessment, which must extend beyond grammatical accuracy to evaluate both process and product. Díaz Maggioli (2024) proposes rubrics that assess coherence, genre adherence, language control, and communicative intent, reinforcing the idea that writing instruction should prioritize meaning-making alongside linguistic correctness. Additionally, peer review and feedback mechanisms are essential in fostering students' metacognitive awareness of their writing practices and providing opportunities for iterative refinement. The integration of digital tools further enhances this process, enabling multimodal composition, collaborative editing, and real-time feedback, thereby aligning writing instruction with contemporary literacy practices.

Despite its advantages, the genre-based approach presents challenges in implementation, including the time-intensive nature of genre analysis, the need for explicit instruction, and the potential for rigid adherence to textual conventions (Díaz Maggioli, 2024).

However, with careful scaffolding and strategic pedagogical interventions, these obstacles can be mitigated. By adopting a balanced instructional approach that combines structured support with opportunities for independent exploration, educators can facilitate the development of students' writing competence in ways that are both academically rigorous and socially relevant. In this regard, Author's work aligns with broader calls for a sociocultural perspective on writing pedagogy, which emphasizes the role of language as a dynamic, socially embedded system that evolves in response to communicative needs (Brisk, 2006; Gibbons, 2009). This perspective is particularly relevant for foreign language education, where learners must not only acquire linguistic proficiency but also develop the ability to participate meaningfully in varied discourse communities.

The sociocultural perspective and the scaffolded nature of learning the written presentation mode have also been the focus of other recent research projects, described below.

The Role of Imitation and Scaffolded Writing Instruction

Students' hesitation to engage in writing can also stem from a lack of familiarity with the conventions of written discourse in L2. Research on imitative learning in writing instruction suggests that providing students with structured models can enhance writing self-efficacy and fluency, thus reinforcing the argument for a genre-based approach. Chen (2023) found that exposing students to well-crafted model texts (presenting, modeling, and deconstructing a model text) and guiding them through structured imitation exercises (collaborative and independent construction of the text) significantly improved their ability to produce coherent and purposeful writing. This approach, when combined with peer support and reflective writing activities, fosters a sense of control over the writing process, making students more willing to engage in extended writing tasks. Given that many Uruguayan public-school students may not have extensive exposure to varied writing genres in English, incorporating these learning strategies could help bridge the gap and reduce writing reticence.

The Role of Pre-Task Planning and Process-Based Approaches

One of the key factors that has been found to influence students' reluctance to write is the cognitive load associated with producing extended texts in a foreign language. Ellis (2022) explores the effects of pre-task planning (PTP) on writing performance, showing that while PTP generally improves fluency and coherence, its impact on grammatical accuracy is less consistent. His study suggests that allowing students time to plan their ideas and structure their writing before engaging in the actual writing task can significantly improve their output. This could be particularly relevant in Uruguayan classrooms, where time constraints and syllabus pressures often limit students' ability to engage in process-based writing approaches that emphasize drafting, feedback, and revision.

Other Integrative Perspectives

Finally, we should highlight other pedagogical trends in the teaching of writing that advocate for integrative approaches combining elements from all three methodologies described above to address their respective limitations.

For instance, Badger and White (2000) proposed a "process genre approach," which merges the recursive practices of the process approach with the contextual sensitivity of genre-based instruction. This hybrid model allows students to engage in the iterative development of their writing while being mindful of genre-specific conventions and audience expectations.

Similarly, Raftari and Abbasvand (2023) analyzed the strengths and weaknesses of product, process, and genre approaches, suggesting that an understanding of these methodologies is pivotal for effective writing instruction.

Finally, Jiang and Kalyuga (2022) examined the cognitive challenges associated with foreign language writing and how collaborative learning can mitigate these difficulties. Their study compared two instructional conditions—individual and collaborative—within a process-genre approach, which integrates recursive writing strategies with

explicit genre instruction. The findings revealed that students in the collaborative writing condition produced higher-quality texts with improved coherence, lexical richness, and grammatical accuracy, while also experiencing lower cognitive load. This outcome supports the collective working memory theory, which posits that distributing cognitive effort among peers enhances learning efficiency and reduces mental strain. Given that writing reluctance in Uruguayan public schools often stems from students' struggles with cognitive overload and lack of confidence, implementing collaborative writing strategies could significantly enhance student engagement and performance.

A key finding of that study was that the collaborative approach not only improved writing outcomes but also increased instructional efficiency, as students in group settings required less cognitive effort to achieve better results.

The findings from these studies provide key insights into why students in Uruguayan public schools may be hesitant to engage with writing and how their engagement could be enhanced through more effective pedagogical approaches. Several key strategies have emerged from this discussion of the literature:

1. Integrating Socially Relevant Writing Tasks: As demonstrated by Hayik (2023), connecting writing activities to students' lived experiences can increase motivation and engagement.
2. Early Writing Instruction and Integration with Other Skills: Research by Moon (2008) suggests that delaying writing instruction can create long-term resistance; thus, integrating writing from early stages is crucial.
3. Using Imitative and Scaffolded Writing Approaches: Chen (2023) highlights the benefits of exposing students to structured models to improve writing confidence and competence.
4. Incorporating Pre-Task Planning to Reduce Writing Anxiety: Ellis (2022) demonstrates that allowing students time to plan their writing before engaging in it can improve fluency and coherence.

However, before advancing any solution, it is essential to confirm whether teachers' perceptions about students' reticence to write must happen. To this avail, in the following section, the methodology of the pilot study is discussed.

Methodology

Design

This study adopted a descriptive, survey-based research design to explore EFL teachers' perceptions of students' engagement with the written presentational communication mode in Uruguayan public secondary schools. The primary objective was to determine whether teachers perceive their students as reticent to engage in writing tasks and to identify the factors contributing to this reluctance. Additionally, the study sought to document the instructional approaches that teachers implement to develop students' writing skills.

A questionnaire was selected as the primary data collection tool due to its efficacy in capturing subjective perspectives from a random sample of participants in a

standardized manner (Dörnyei & Taguchi, 2010). Given that the study focused on teachers' perceptions rather than direct student performance, the questionnaire allowed respondents to provide both objective and qualitative data, enabling the study to identify patterns and trends in teaching practices and beliefs.

Participants and Sampling

The questionnaire was distributed electronically to EFL teachers working in Uruguay's public secondary schools via social media platforms (Facebook, LinkedIn, and Instagram). A total of 58 responses were collected. While there are no precise records of the total number of EFL teachers in Uruguay, the estimated number of responses constitutes approximately 5% of the EFL teaching population in the country. This sample size, albeit limited, is deemed sufficient for a pilot study, as it allows for the identification of preliminary trends and key themes regarding writing instruction and student engagement (Creswell & Creswell, 2018). Furthermore, in exploratory research, samples between 5% and 10% of a population can provide meaningful insights, particularly when the population is homogeneous in terms of professional background and teaching context (Mackey & Gass, 2016). The data collected from this sample provided a solid foundation for refining research instruments and hypotheses for future large-scale studies.

Data gathering

The questionnaire consisted of seven questions, combining multiple-choice and open-ended items to ensure a comprehensive understanding of teachers' perceptions and practices:

1. Three multiple-choice questions:
 - What grades do teachers currently teach?
 - Do teachers perceive their students as reticent to engage in writing?
 - Do teachers devote specific class time to explicitly teaching the written presentational communication mode?
2. Four open-ended questions:
 - If teachers perceive students as reticent, what do they believe are the reasons for this?
 - What approaches to the teaching of writing do teachers report implementing?
 - Why do teachers think students are reticent (or not reticent) to write?
 - What suggestions do they have for improving the current state of writing instruction?

This mixed-format approach ensured that the study collected both objective data to identify trends, and qualitative data to explore the depth and diversity of teacher perspectives. The open-ended questions allowed for richer, more nuanced insights, facilitating the identification of recurring themes and potential areas for pedagogical intervention (Bryman, 2012).

Ethical Considerations

To uphold ethical research standards, the questionnaire was administered using an electronic survey tool that ensured the anonymity of respondents. Participants were required to complete a consent form before accessing the questionnaire, explicitly indicating their willingness to participate. If a respondent did not consent, they were not redirected to the questionnaire, ensuring voluntary participation in accordance with ethical research principles (BERA, 2018).

Furthermore, all data were securely stored to protect participant confidentiality. Responses were kept in a password-protected online folder in the researcher's cloud storage and additionally backed up on an external data unit; also password-protected. These measures ensured compliance with ethical guidelines for data management and participant privacy.

Data analysis

The questionnaire was open for responses over a two-week period, allowing teachers adequate time to participate. Once data collection was completed, responses were aggregated and analyzed through two cycles of coding, which led to the establishment of themes that were subjected to thematic analysis. The latter involved identifying patterns in teachers' explanations regarding students' reluctance to write and their instructional approaches.

This methodological approach provided a structured yet flexible framework for capturing the complexity of teachers' perceptions of EFL writing instruction in secondary schools in Uruguay, forming the basis for further research into effective pedagogical strategies to enhance students' engagement with writing.

Results

The responses to the questionnaire yielded many interesting insights into the reality of the teaching of writing in Uruguayan secondary schools. The following themes emerged from the data gathered:

Prevalence of Reticence to Writing in English

The survey data indicate that a significant percentage of students exhibit reluctance towards writing in English. A majority of respondents (52.8%) stated that their students are reticent to write in English, while 47.2% reported that their students are sometimes reluctant. It should be noted that there were no responses indicating students are not hesitant when engaging in writing tasks. Table 1 summarizes these responses.

Table 1*Percentage of responses reporting reticence to writing*

Students are reticent to write most of the time	52.8%
Students are sometimes reticent to write	47.2%
Student are seldom reticent to write	0%

Writing Instruction Practices

While recognizing the importance of writing instruction, a surprising 94% of teachers reported dedicating specific class time to teaching students how to write, whereas only 6% indicated that they do not explicitly teach writing skills. Table 2 summarizes those figures. Those who do incorporate writing instruction primarily focus on helping students generate ideas, organize their thoughts, and structure their writing according to different discourse types. However, time constraints were cited as a key barrier to incorporating more writing-focused lessons, with some teachers relying on textbook exercises rather than explicit instruction on writing as a process.

Table 2*Implementation of writing instruction in classes*

Teachers who devote specific class time to teaching writing	94%
Teachers who do not devote specific class time to teaching writing	6%

Approaches to Writing Instruction

Teachers reported using a variety of approaches to teaching writing as evidenced in Table 3, but there is no consistent methodology across schools. The most common approach was the process approach (47%). Some teachers (11.7%) reported using the product approach. A much smaller percentage (5.8%) favored a genre-based approach. Notably, 20.5% of teachers stated that they do not follow a specific approach, instead adapting their teaching based on class dynamics and available instructional time. What is surprising is that 11.7% of the respondents reported not being familiar with any approach whereas 3.3% opted not to answer this questions.

Table 3*Instructional approaches used by teachers to develop writing*

Process approach	47%
Product approach	11.7%
Genre-based approach	5.8%
Not follow any specific approach	20.5%
Respondent not familiar with the approaches	11.7%
No response	3.3%

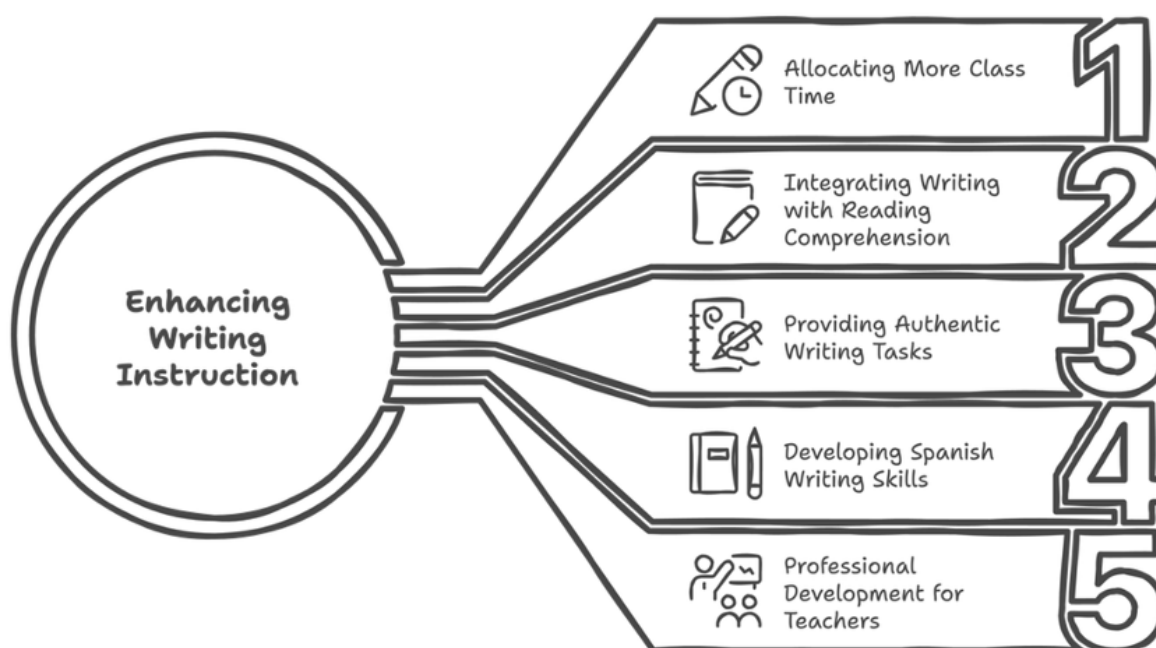
Suggested Improvements for Writing Instruction

Teachers provided a range of suggestions to enhance the teaching of writing in public schools. A common theme was the need to allocate more classroom time to writing instruction, ensuring that students receive explicit guidance on how to develop their ideas and structure their texts. While 94% reported allocating specific class time to the development of writing, the time available seems not to be enough.

Several teachers emphasized the importance of integrating writing with reading comprehension activities, as well as providing students with authentic, meaningful writing tasks that connect to their interests and real-world experiences. Additionally, some respondents suggested that students should first develop stronger writing skills in Spanish before being expected to produce coherent texts in English. Finally, professional development for teachers was identified as a crucial factor in improving writing instruction, as many educators felt they lacked training in effective writing pedagogy. These opinions are summarized in Figure 1 below.

Figure 1

Participants' recommendation to improve writing instruction



Note. This diagram was generated by napkin.ai based on the text that precedes it.

Discussion

The analysis of the questionnaire responses confirms a widespread perception among Uruguayan secondary EFL teachers that their students are reticent to engage in writing tasks in English. However, beyond this general trend, the data suggest that such reluctance is not monolithic. Teachers' open-ended responses provide insight into a range of interrelated cognitive, affective, institutional, and pedagogical factors that contribute to students' disengagement, which align with—and in some cases challenge—assumptions derived from the literature on L2 writing instruction.

Misalignment between Theory and Practice in Writing Instruction

A clear discrepancy emerges between the process-oriented and genre-based approaches endorsed in the literature and the instructional practices reported by teachers. Although 94% of respondents report allocating time to teaching writing, only 47% explicitly adopt a process approach, and a mere 5.8% mention using genre-based instruction. This is striking, given that the recommendations of the MCN explicitly advocate for a process-based approach. Additionally, as has been discussed in the theoretical background section of this paper, much of the literature emphasizes the pedagogical value of these approaches in scaffolding students' development of textual coherence, audience awareness, and discursive fluency.

Teachers' responses frequently reveal that writing is implemented as a one-shot activity rather than a recursive process. For instance, one teacher notes that *"students don't like to rewrite several times,"* suggesting that the iterative nature of writing, central to the process approach (Zamel, 1987), may not be sufficiently modeled or supported. Similarly, references to *"doing the writing task at the end"* or relying solely on textbook prompts imply a product-oriented approach that may not adequately promote student agency, reflection, or ownership of their work.

The Role of Instructional Scaffolding and Pre-Writing Support

The lack of consistent application of scaffolding strategies was a recurring theme in teachers' responses. Several participants mentioned that students *"lack ideas"* or *"don't know where to start,"* pointing to a failure to integrate structured pre-writing activities, such as brainstorming, guided modeling, or collaborative drafting. This finding supports Ellis' (2022) claim that pre-task planning can ease the cognitive load associated with writing in an L2, making the task more accessible and less anxiety-inducing for learners.

Interestingly, the few respondents who reported employing a genre-based approach described a more supportive instructional sequence. One teacher explained: *"I always start with pre-writing activities to give them a lot of input, we see lots of models, then we write one collaboratively, and just then they write on their own."* This mirrors the teaching-learning cycle advocated by Martin (2009) and Díaz Maggioli (2024), which gradually moves students from supported practice to independent production. Such accounts suggest that where scaffolding is present, students' engagement and confidence may increase, a hypothesis supported by both the literature and teachers' own observations.

Institutional Constraints and Curriculum–Practice Discrepancies

Another prominent theme concerns the constraints imposed by institutional realities, including limited instructional time, lack of pedagogical training, and competing curricular demands. One teacher summarized this tension succinctly: *"There is not enough time to help each student with their writing skills. The book doesn't help either."* Despite curricular documents that advocate for active learning and the use of portfolios

and revision cycles (ANEP, n.d. a), teachers often report reverting to grammar-focused or assessment-driven tasks due to practical limitations. As one participant reported, *"I review or teach the main grammar they will need, I work reading and then they have to produce writing pieces, sometimes some sentences, to a paragraph to end in a short text."*

These constraints echo findings from Jiang and Kalyuga (2022), who identify time and cognitive overload as major barriers to effective writing instruction.

The fact that 11.7% of teachers reported being unfamiliar with any approach to writing pedagogy underscores a systemic gap in professional development. This aligns with the theoretical concern that without adequate teacher training, even the best curriculum remains unimplemented (Brisk, 2006; Díaz Maggioli, 2024). Professional development programs focused on the application of process- and genre-based approaches could therefore be a powerful lever for change.

Students' Reticence: Affective and Sociocultural Dimensions

Teachers overwhelmingly report that students perceive writing as a tedious and purposeless activity, which discourages their participation. One teacher highlighted this issue by stating, *"They have lost the habit of writing in general, and they believe that writing is a tedious process that takes lots of time, seeing it as boring for them."* This suggests that writing is not being framed as an engaging, communicative skill but rather as a burdensome task.

Another teacher emphasized the lack of meaningful connections between writing assignments and students' lived experiences, stating, *"They are [reticent to write] because most of the time, there is no real purpose."* This aligns with research advocating for authentic, socially relevant writing activities that motivate students by making tasks personally significant (Hayik, 2023). Similarly, another teacher observed, *"In my opinion, it is because they find the writing tasks boring or not motivating."* These responses highlight how decontextualized assignments fail to capture students' interest, reinforcing disengagement with writing.

Some teachers noted that when writing tasks do carry personal meaning, students show greater willingness to engage. One respondent shared, *"I find them less reluctant when what they have to write is personally meaningful or has a purpose."* This testimony suggests that incorporating personal narratives, real-world writing situations, or socially relevant topics could increase student engagement. Another teacher pointed out that the dominance of technology has changed how students interact with written communication, stating that they do not write *"because they are used to technology."* This may indicate that traditional pen-and-paper tasks fail to align with students' digital literacy practices, suggesting that integrating multimodal composition or digital storytelling could enhance motivation.

Furthermore, several teachers highlighted students' struggle with idea generation, which further alienates them from writing tasks. One teacher stated, *"Most students do not like writing in their L1 and feel reluctant to do it in English. They lack ideas and creativity. They tend to look for easy and quick stimulations, and writing takes practice, patience, and time."* This insight supports research indicating that students need structured scaffolding, brainstorming exercises, and model texts to develop the confidence to engage in extended writing (Díaz Maggioli, 2024; Yasuda, 2011).

In contrast, a few teachers who incorporated more socially meaningful tasks reported higher student engagement. This supports Hayik's (2023) assertion that writing becomes more motivating when learners write about topics they care about. The data suggest that enhancing task authenticity and relevance could mitigate students' disengagement and foster a more positive relationship with writing.

Cross-Linguistic and Developmental Considerations

Several teachers commented on students' lack of writing habits in their first language (Spanish), suggesting that foundational literacy skills may be underdeveloped. One respondent stated, *"Students need to learn to write in Spanish first, before we expect them to do it in English."* This insight is consistent with Cummins' (1981) Common Underlying Proficiency Model, which posits that skills acquired in one language can transfer to another. The implication is that L2 writing instruction cannot be isolated from broader questions of literacy development across the curriculum.

Conclusion

As a pilot study, this research provides useful preliminary insights into EFL teachers' perceptions of students' reluctance to engage in writing. However, several limitations must be acknowledged. First, the study relies on voluntary responses, which may introduce self-selection bias, as those who chose to participate may have particularly strong views on writing instruction. Additionally, the total number of EFL teachers in Uruguay remains undetermined, making it difficult to ascertain the full representativeness of the 58 responses, which constitute approximately 5% of the estimated teaching population. While this percentage is adequate for an exploratory study (Mackey & Gass, 2016), future research should aim to increase participation to enhance the trustworthiness of findings so as to affect policy development.

Another limitation is the sole reliance on teachers' self-reported perceptions, which, while valuable, do not provide direct evidence of student writing performance. Teachers' responses reflect their observations and professional insights, but students' perspectives on writing reluctance were not explored. A more comprehensive approach could triangulate data by incorporating student surveys, classroom observations, and analysis of student writing samples to validate and expand upon teachers' perceptions.

Finally, while the questionnaire format allowed for a balance of objective and qualitative data, the depth of responses was limited by the constraints of the instrument. Some open-ended responses lacked elaboration, suggesting that follow-up interviews or focus groups could provide richer, more detailed insights into the factors affecting students' writing engagement.

Given the key themes that emerged from this pilot study, future research should focus on targeted interventions and deeper explorations of writing instruction in Uruguayan public schools. Several potential research directions emerged:

Investigating Student Perspectives

Future studies should incorporate students' viewpoints to understand their attitudes, challenges, and motivations regarding writing. A comparative analysis between teachers' perceptions and students' self-reported experiences could provide a fuller picture of the issue.

Classroom-Based Research on Writing Practices

Observational studies or action research projects could document how writing is actually being taught in classrooms. This would help identify effective instructional strategies and the extent to which these writing approaches are being implemented.

Intervention Studies on Process and Genre-based Writing

Given that the study found limited use of drafting, feedback, and revision cycles, as well as of the genre-based approach, future research should examine the impact of explicit process-based writing instruction on student engagement and writing outcomes. Experimental or quasi-experimental designs could compare classrooms using process-writing methodologies versus those using traditional product-based approaches.

Professional Development for EFL Teachers

The study revealed that many teachers feel unprepared to teach writing effectively, indicating a need for teacher training programs focused on writing pedagogy. Research on the impact of professional development workshops on teachers' confidence and instructional strategies would be highly beneficial.

Integration of Digital Writing Tools

Given that some teachers noted that students engage more readily with digital forms of communication, future research should explore how technology-enhanced writing instruction (e.g., collaborative online writing, digital storytelling, or AI-assisted feedback) can foster engagement and writing development.

Early Writing Exposure and Cross-Linguistic Transfer

Since teachers frequently cited students' lack of writing habits in their first language as a barrier to L2 writing, research should explore how early writing instruction in Spanish influences writing development in English. This aligns with Cummins' (1981) Common Underlying Proficiency Model and could inform curriculum planning to create stronger foundational writing skills in both languages.

In short, this pilot study has confirmed the widespread perception that EFL students in Uruguayan public schools are reticent to engage in writing tasks. It has also highlighted key institutional and pedagogical barriers, including time constraints, insufficient scaffolding, lack of process-based or genre-based writing instruction, and a perceived disconnect between writing tasks and students' real-world experiences. Addressing these challenges requires systemic changes in curriculum design, teacher training and development, and instructional methodologies to ensure that writing is not just an assessment-driven skill, but a meaningful communicative practice that students develop progressively and with confidence.

By expanding on this research through broader sample sizes, more diverse methodologies, and experimental interventions, future studies can provide evidence-based recommendations for minimizing student reluctance to write in English and fostering a more engaging, effective, and inclusive writing curriculum in Uruguayan public secondary education.

Notes:

Final approval of the article:

Lourdes Cardozo-Gaibisso, PhD, guest editor of the special issue.

Authorship contribution:

Gabriel Díaz Maggioli declares the article is a report of a pilot research project he undertook recently. As such, he designed the project, selected the most appropriate methodology, designed data gathered instruments, gathered and analyzed the data and wrote the article entirely himself.

Availability of data:

The dataset supporting the findings of this study is not publicly available.

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“Smart forestry” as a Community-Based Teacher Professional Learning to Support ESOL Practices¹

La “gestión forestal inteligente” como contenido basado en la comunidad para el aprendizaje profesional docente para apoyar las prácticas de ESOL

A “gestão florestal inteligente” como aprendizagem profissional de professores para apoiar práticas de ESOL

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Abstract

In this paper, we use forestry education as an example of a place-based and community-based topic to simultaneously teach English language skills, STEM problem solving, and career education in a locally relevant field. Our in-service science teacher professional learning framework uses culturally and linguistically sustaining tools, practices, and model lessons to support teachers working with all students, including those learning English as an additional language. We argue that science teachers must take the initiative to develop key English for Speakers of Other Languages (ESOL) competencies to support their multilingual learners, and that science teaching is well suited to this integration of content-area language instruction. We analyzed weekly teacher logs completed after school-science club meetings, focus group interviews with the teachers, and conducted a mini case study of one club lesson. We found multiple ways in which teachers in our science professional learning project engaged with the topic of forestry to simultaneously teach English language and science content while also strengthening cultural and community connections to science. We conclude that this approach to preparing content-area teachers to see themselves as content-area language teachers is essential for the future of ESOL education.

Resumen

En este artículo, utilizamos la educación forestal como ejemplo de un tema basado en el entorno físico y comunitario para enseñar simultáneamente habilidades en el idioma inglés, resolución de problemas de ciencia, tecnología, ingeniería y matemáticas (STEM, por sus siglas en inglés) y educación profesional en un campo profesional relevante a nivel local. Nuestro marco de formación profesional para docentes de ciencias en servicio utiliza herramientas, prácticas y lecciones modelo que sustentan la cultura y el idioma para apoyar a los docentes que trabajan con todo tipo de estudiantes, incluyendo aquellos que aprenden inglés como idioma adicional. Argumentamos que los docentes de ciencias deben tomar la iniciativa para desarrollar competencias clave en inglés para hablantes de otros idiomas (ESOL) para apoyar a sus estudiantes multilingües, y que la enseñanza de ciencias se adapta bien a esta integración de la enseñanza de idiomas en las áreas de contenido. Analizamos los registros semanales de los docentes, completados después de las reuniones del club de ciencias escolar, entrevistas grupales con los docentes y un miniestudio de un ejemplo de una lección particular en un club. Encontramos múltiples maneras en las que los docentes de nuestro proyecto de formación profesional en ciencias, abordaron el tema de ciencias forestales en maneras que simultáneamente enseñaban inglés y conocimientos científicos. A la vez que fortalecían las conexiones culturales y comunitarias con la ciencia. Concluimos que este enfoque de preparar a los docentes de áreas de contenido para que se consideren docentes de idioma en áreas de contenido es esencial para el futuro de la educación ESOL.

Keywords:

language of science,
multilingual learners,
ESOL, forestry education,
professional learning.

Palabras clave:

lenguaje de la ciencia,
estudiantes multilingües,
ESOL, educación forestal,
aprendizaje profesional.

Resumo

Neste artigo, utilizamos a educação florestal como exemplo de um tópico baseado no ambiente físico e comunitário para ensinar simultaneamente habilidades em inglês, resolução de problemas de ciência, tecnologia, engenharia e matemática (STEM, na sigla em inglês) e educação profissional em uma área de atuação localmente relevante. Nosso marco de formação profissional para professores de ciências em exercício utiliza ferramentas, práticas e lições modelo que integram a cultura e o idioma para apoiar os professores que trabalham com todo tipo de alunos, incluindo aqueles que aprendem inglês como segundo idioma. Argumentamos que os professores de ciências devem tomar a iniciativa de desenvolver competências-chave em inglês para falantes de outras línguas (ESOL) para apoiar seus alunos multilíngues. Além disso, consideramos que o ensino de ciências é adequado para integrar a aprendizagem do idioma nas áreas de conteúdo. Analisamos os registros semanais dos professores, preenchidos após as reuniões do clube de ciências da escola, entrevistas em grupos com os professores e um mini estudo de caso de uma aula particular realizada em um clube. Descobrimos diversas estratégias adotadas pelos professores do nosso projeto de formação profissional em ciências para abordar o tema das ciências florestais de forma integrada, ensinando simultaneamente inglês e conteúdos científicos e, assim, fortalecendo, as conexões culturais e comunitárias com a ciência. Concluimos que preparar professores de áreas específicas para também se reconhecerem como professores de idiomas em suas disciplinas é uma abordagem essencial para o futuro da educação ESOL.

Palavras-chave:

linguagem científica, estudantes multilíngues, ESOL, educação florestal, aprendizagem profissional.

Introduction

Research Problem: Why Content Focused Language Teaching?

In this paper, we use forestry education as an example of a place-based and community-relevant topic for simultaneously teaching English language skills, STEM problem solving, and career education to all students, including multilingual learners. We show how our in-service teacher professional learning model applies theories of culturally and linguistically sustaining pedagogies to practical methods for supporting teachers of multilingual students using tools, practices, and model lessons developed in our project. More specifically, we address the research question: How do teachers in our science professional learning project take up the topic of forestry in ways that simultaneously teach English language development and science knowledge while also strengthening cultural and community connections to science? Alternatively, put another way, do teachers see a place-based topic such as forestry as a useful way to bridge from theoretical pedagogical frameworks to practical teaching methods for content focused language learning? We argue that this approach to preparing content area teachers to see themselves as content area *language* teachers is essential for the future of English for Speakers of Other Languages (ESOL) education (Buxton *et al.* 2018).

There are several reasons why content area teachers need to take more ownership of teaching the language of their discipline. First, because the number of specialized ESOL teachers is not keeping pace with the number of multilingual students, all teachers must come to see themselves as language teachers if all students are to receive the language instruction they need (Whiting, 2017). In the United States, where we work, science teachers rarely get direct support from ESOL teachers, since that support primarily goes to language arts and mathematics classrooms, where accountability and assessment measures are likely to focus (Mitchell, 2022). Thus, many multilingual learners continue to receive inequitable learning opportunities in science and other subjects (Grapin *et al.*, 2023). We argue that the lack of robust collaboration and cross training between ESOL teachers and science teachers has been at the root of this issue.

Second, in recent years, there has been a push in ESOL education to do more than just teach English, recognizing that some content is always used to teach language, and that we can do more to ensure that this content is meaningful for the learner (Bauler & Kang, 2020). Much of traditional ESOL education has focused on basic social communication, which, while important, is not aligned with either academic purposes or career-related knowledge and skills. However, many ESOL teachers lack the content-area knowledge needed to teach the specific disciplinary language required to engage in and communicate about disciplinary practices such as science (Tigert & Peercy, 2018). Thus, ESOL specialists cannot do this job alone; they must partner with teachers who have the relevant content area background. Such partnering among teachers with different strengths, interests, and skills also models for students what we know about the value of learning together with others who bring a different perspective to the topic (Fam *et al.*, 2018). Fortunately, science has been shown to be well suited to such transdisciplinary learning, integrating language and science through instructional strategies such as hands-on investigation, multimodal representations, and applied problem-solving (Harman *et al.*, 2020).

While ESOL teachers may lack the depth of disciplinary content and experience to successfully teach a subject such as science, most science teachers are likewise underprepared to explicitly support students in learning the language of their subject (Rutt *et al.*, 2021). This argument can be made for all content areas, but there are reasons why it is particularly important for all students to receive robust and contemporary science education. First, technologies resulting from modern science and engineering play an ever-increasing role in our daily lives (Sima *et al.*, 2020). Second, many of the challenges we currently face as individuals, families, communities, and society (e.g., health care, affordable housing, climate change) have possible solutions that are linked to science and scientific problem-solving (Lee & Grapin, 2022). Third, many of the fastest-growing, living-wage career fields around the world today are in STEM or STEM-adjacent fields (Navy *et al.*, 2021). This includes a wide range of job types that require STEM knowledge and skills but not necessarily a college degree (e.g., wind and solar energy technicians). Thus, all science teachers need to see themselves as having an essential role in teaching the language practices as well as the investigation practices of science to all their students. Our project seeks to support this goal.

Background and Theoretical Foundation

To address these needs, both content-area teachers and ESOL teachers need continuing professional learning on how to work more effectively with multilingual learners. While some states in the U.S., such as California and Florida, have mandated ESOL endorsement for all teachers regardless of subject (Gras & Kitson, 2021), this step has not been sufficient, because working successfully with multilingual learners requires more than just using the language supports promoted in traditional ESOL programs. Indeed, equitable teaching must include culturally and community-sustaining pedagogies as well because, without a connection to culture and community, home language support is typically positioned as transitional support, available only until students learn enough English to survive in English-only instruction (Turkan *et al.*, 2014). Further, there is growing evidence that applied science fields are particularly well suited to rethinking ESOL education (e.g., Lee & Grapin, 2024). Thus, we wished to test the idea that the discipline of forestry in Oregon could simultaneously support the teaching of English language communication skills, sustain and deepen home language communication skills, teaching general STEM practices, and developing specific skills within a science discipline that has local and regional career applications.

Our Language, Culture, and Knowledge-building through Science (LaCuKnoS) project works primarily with after-school science clubs run by teachers across elementary, middle, and high school contexts. While approximately 25% of these teachers have ESOL endorsements (and 7% have dual-language endorsements), most are science teachers (in middle and high schools) or elementary generalists with little to moderate preparation in ESOL for supporting multilingual learners. Our project provides professional learning to these teachers using a theoretical framework that integrates language development for improving science communication, cultural and community connections to science, and science knowledge building for informed decision-making in our daily lives (see Table 1). We use the specific science discipline of forestry as an example of how to select and teach a science subject with place-based, cultural, and community relevance, as described below.

Table 1*The LaCuKnoS framework of practices*

	<i>Strand 1:</i> Language Development for Science Sense Making	<i>Strand 2:</i> Mapping Cultural & Community Connections to Science	<i>Strand 3:</i> Knowledge Building for Informed Decision Making
Goal:	Students learn to position themselves as competent knowers as they make intentional communication choices.	Students strengthen their science interests and identities as they recognize roles of science in their lives, cultures, histories, and communities.	Students apply evidence to daily decisions and propose solutions to community challenges.
Band 1: Starting practices	Practice L1: Choosing language based on topic, purpose & audience.	Practice C1: Purposeful grouping & roles to connect science & community.	Practice K1: Experiencing how science knowledge is built and accepted.
Band 2: Deepening practices	L2: Using Multimodalities and Translanguaging to make and share meaning.	C2: Engaging families together in science co-learning.	K2: Visualizing and representing data to support scientific claims.

Teaching about Forestry in Oregon: Leveraging Community Connections to Science

The amount of precipitation, temperature range, and soil profile in the state of Oregon in the U.S. create a perfect environment for forests to grow and flourish. Thus, timber harvesting has a long history in the region, where logging has been part of the economy and the culture of many local communities since the 1800s. Today, more than 60,000 people in Oregon are employed in the forest sector, and the forests that cover nearly half of Oregon's land area (OFRI, 2023) are both ecologically diverse and critical to the state's economy, with Oregon producing more softwood lumber and plywood than any other state in the United States.

Changes in policy, demographics, and wood markets have strongly shaped the forestry industry in Oregon over time, and the field has increasingly modernized in recent years to remain competitive and sustainable while providing the ecological, social, and economic services that are expected from the forest (Kan, 2012). However, one of the main issues currently facing the forestry sector in Oregon is a growing labor shortage. This labor shortage includes jobs that require significant formal education, such as forest engineering, as well as jobs requiring less formal education, such as logging crews (Spinelli *et al.*, 2019).

The 2023 U.S. Census Bureau statistics show that the forestry workforce in Oregon is aging: workers between the ages of 24 and 44 comprised 60% of the forestry workforce in 1992 but shrank to 38% in 2022, the number of workers between 55 and 64 years old has doubled in the same period, and workers older than 65 years old has increased tenfold (from 1% to 10%). While the increased use of automation and technology has helped to offset these worker shortages and improve safety (Axelsson, 1998), new recruitment strategies and training opportunities are needed to motivate potential future workers and to provide them with new STEM skills. This makes forestry in Oregon

an ideal example of a place-based and community-relevant topic for simultaneously teaching English language and career-relevant knowledge and skills. To this end, the LaCuKnoS project developed a series of model lessons to teach the next generation of Oregon students about forestry and forestry careers.

Based on both local and global forestry trends, we selected three key topics for our forestry model lessons. The first topic of *forest restoration and fire management* involves knowledge and skills for understanding and incorporating natural processes, including disturbances such as fires, into active forest planning to increase forest wildfire resilience. The second topic of forest engineering involves analytical skills required for evaluating systems of human-nature interactions, such as integrating the operational and economic aspects of forest management with sustainable practices. Our third topic, wood science and renewable materials, highlights knowledge of wood as a renewable building material that can replace traditional non-renewable building materials. These themes point to advances and innovations that are sometimes referred to as "smart forestry." Each of these themes can also provide unique and rich examples of how to use forestry to simultaneously teach language, science, and career education in culturally and linguistically sustaining ways. In this paper, we focus specifically on the third theme of wood science and renewable materials to highlight one important current wood science innovation called Cross-laminated timber.

One of the most impactful advances in wood science introduced in the Pacific Northwest in recent years is Cross-laminated timber (CLT), which involves the construction of large-scale, prefabricated, solid engineered wood panels. These panels are built by arranging small pieces of wood laid out perpendicularly to each other in layers to build massive panels. These panels can be designed and assembled as a "puzzle" to build large multi-story buildings or stronger manufactured housing. Over time, buildings made of renewable CLT panels can replace non-renewable building products, such as concrete and steel, which cause more environmental damage.

Innovations like CLT highlight the application of science in community contexts to solve social problems. CLT panels can be made from smaller pieces of wood than conventional lumber, providing a new market for small-diameter trees that have become an increasing fire hazard due to overstocking and the warmer and drier weather that has resulted from climate change. In the U.S., there is a desire to reduce fuel accumulation in national forests to reduce the risk of fires, but harvesting small diameter trees has not been economically worth the cost. CLT construction has created a new and more valuable use for smaller trees, simultaneously reducing fire risks, creating new job opportunities in rural communities, and lowering the cost of housing over time. Thus, community-relevant topics such as CLT provide new educational opportunities for students who may not otherwise see a place for themselves in science, and, perhaps, an increased motivation to learn the language skills required.

Methodology

Overview of LaCuKnoS Teacher Professional Learning Model

The LaCuKnoS project uses design-based implementation research (DBIR; Fishman & Penuel, 2018) to engage teachers, students, families, and community members

in STEM co-learning through a research-practice partnership. In this partnership, in-service teachers from communities across Oregon lead weekly after-school STEM clubs and annual family engagement events. A university-based outreach and engagement program called SMILE provides the structure and logistics for the partnership, and our research team provides professional learning that prioritizes the enactment of contemporary perspectives on science, language, and culture (Buxton *et al.*, 2024). Together, we explore practices and model lessons (see Table 1) to make science more accessible for all students, particularly multilingual learners and other students from groups that are traditionally underrepresented in STEM educational and career pathways.

Our model builds on the idea that teachers gain confidence in their ability to use new practices and tools by trying them out first in a relatively low-stakes context (Reich, 2022). The after-school science clubs play this role, and teachers are encouraged to subsequently translate our practices, tools, and lessons into their regular science classes, applying these approaches to other lessons they teach. Our professional learning model emphasizes work on both implementing and adapting instructional practices. Rather than expecting all teachers to implement these practices in the same way (with fidelity to an idealized model developed by researchers), we instead expect each teacher to adapt the practices to fit their unique community and classroom contexts, encouraging—and then studying—what we refer to as *encouraging and then studying what we refer to as multiplicities of enactment* (Buxton *et al.*, 2015).

Practices, Tools and Model Lessons

Human learning and progress have largely occurred through the development and use of tools (physical, conceptual, and communicative) for solving problems. Learning to apply new tools can help us see new possibilities for ourselves. Thus, LaCuKnoS is fundamentally about supporting students in applying and expanding the linguistic, cultural, and knowledge-building tools they possess to make sense of the world and their place in it (Lee & Grapin, 2024). When we discuss tools in the LaCuKnoS project, we are referring to concrete resources that can be helpful for accomplishing science-learning tasks within our integrated model of language, culture, and knowledge building. An example of a language tool is our “language boosters,” which are short, high-interest readings (often including videos and other multimodal resources) that orient students to the topic and provide opportunities for them to talk and think together about what they already know. An example of a cultural tool is the “family conversation cards” that we use to prompt families to talk together about experiences they have had that are relevant to the science topics students are learning. An example of a knowledge-building tool is “scientist stories that explore STEM careers” to help students see themselves as science people.

Practices refer to the specific actions and strategies used to accomplish our goals. A focus on practices has become central to science education in the U.S. since the release of the Framework for K-12 Science Education (National Research Council, 2012), which introduced the idea of science and engineering practices as one of three key dimensions of science learning. In the LaCuKnoS instructional model, we expand this idea to integrate language development practices and culturally sustaining practices as well. An example of a language practice is using multiple modalities to communicate understanding of a science concept. An example of a culturally

sustaining practice is using role-play to connect science and community. An example of a knowledge-building practice is visualizing and representing data to support scientific claims. Practices are more general than tools, meaning that these practices can be applied to any lesson or context once a teacher becomes comfortable with them.

Model lessons were developed by the project team to provide practical examples of how to embed our project tools and practices. These lessons were shared with the teachers during workshops held three times a year. The model lessons we developed focus on three themes: 1) societal challenges with local implications, such as health care, climate change, and sustainability issues; 2) how scientists use models to better understand and communicate important concepts; and 3) lessons with a forestry focus to highlight the importance of forestry in our educational context.

Model Forestry Lessons

The ten lessons developed with a forestry focus are described in Table 2. We conceived of these lessons as place-based and culturally relevant to the communities in which we work. Five lessons were developed to focus on the three contemporary “smart forestry” topics described earlier: forest restoration and fire management, wood science and renewable materials, and forest engineering. These lessons were new and completely unfamiliar to the teachers. The other five lessons were adaptations of more traditional lessons about trees and forests, updated to integrate the LaCuKnoS tools and practices. Some teachers were familiar with existing versions of these lessons, while others were not. In the findings, we particularly focus on Lesson 9, Cross-laminated timber (CLT), because it was the forestry lesson that the teachers selected and used most frequently in their SMILE clubs.

Table 2
Model Forestry Lessons

	Lesson Name	Short lesson description (and forestry theme)	Learning goal of the lesson
Traditional Lessons			
1	How Seeds Travel	Students build models of different ways in which seeds travel (botany)	Students learn that seeds disperse in different ways depending on their weight and other factors.
2	If I were a Tree	Students compare the functions of the parts of a tree with the functions of the parts of a human body (plant physiology)	Students learn that trees have similar life functions to humans but with different parts playing similar roles.
3	How Old is a Tree	Students study tree rings to determine tree age and growing conditions (dendrochronology)	Students learn about tree growth and environmental conditions by looking at annual growth rings.
4	Tree Detective	Students gather leaves and make observations to identify trees around their school (dendrology)	Students learn different characteristics of trees and learn to identify the trees around their school.

	Lesson Name	Short lesson description (and forestry theme)	Learning goal of the lesson
5	Paper Making	Students make paper and learn about paper-making and design (wood chemistry)	Students use design thinking to consider how to improve papermaking.
Smart Forestry Lessons			
6	Managing Oregon's Forest Together	Students play the roles of land owners and foresters making decisions about how to manage a forested property (forest engineering)	Students learn to address competing demands, such as maintaining biodiversity, meeting wood processing needs, and reducing the risk of forest fires.
7	Optimal Tree Utilization	Students cut model logs made of clay to consider how to get the most value in lumber from a tree (forest engineering)	Students learn to calculate cutting a tree into logs of different sizes for different lumber mills to maximize the value of their wood.
8	Forestry Sensors & LiDAR	Students make a model of how LiDAR is used to measure the heights of trees (forest engineering)	Students learn to measure and graph a forest profile as they simulate how LiDAR works.
9	Cross-laminated timber (CLT)	Students make and test models of ways to make stronger wooden parts for construction (wood science)	Students learn what cross-laminated timber is and why it is a valuable new building product for the Pacific Northwest.
10	Understanding Wildfire Smoke	Students mix colored hot and cold water to model temperature inversions in the atmosphere (forest restoration)	Students learn why wildfire smoke and air pollution linger around us by studying the concept of temperature inversion.

Cross-Laminated Timber (CLT) Lesson

The main goal of the CLT lesson is for students to understand the potential applications of Cross-laminated timber, as described earlier. More broadly, the lesson teaches about renewable materials and how CLT building materials may help simultaneously lower housing costs and mitigate large-scale forest fires over time. The lesson is divided into three parts. In the first part, students reflect on what they already know about wood and other building materials. They learn about the properties of wood, such as its uneven strength in different directions (*anisotropy*) defined by the wood grain and how it affects the use of wood as a building material. In the second part, students use small sticks of wood (coffee stirrers or craft sticks) and arrange them in different ways to explore how this changes the strength of the model wooden panels they construct. Students learn that by applying the design of Cross-laminated timber (CLT), in which wood layers are arranged perpendicular to their grain direction, they can create a stronger structure using the same amount of wood. In the final part of the activity, students reflect on how CLT construction might positively affect their lives, for example, by making housing more affordable, reducing the risk of wildfires, and creating new living-wage jobs for workers in Oregon.

Data Collection

Data for this study come from the larger dataset collected in the LaCuKnoS project (Buxton *et al.*, 2024). Specifically, three sources of data describe teachers' use of our forestry lessons. The first is teacher log data collected over the duration of the project. After each weekly club meeting, teachers completed an online form (teacher log) in which they describe what they did in their club that day, including which LaCuKnoS tools, practices, or lessons (if any) they used. From the database of all teacher logs collected across three academic years (2021-2024), we extracted all references to forestry lessons ($N = 114$) to explore how these forestry lessons were used at the club level, examining patterns such as differences between elementary and secondary clubs, between regions of the state, and between the "smart forestry" and "traditional forestry" lessons.

The second data source involves teacher focus group interviews conducted at the final teacher professional learning session each year of the project. These focus groups provided teachers with the opportunity to reflect on what they did during the year in their SMILE clubs. Questions were prompted by graphs showing patterns in the teacher log data allowing teachers to reflect more explicitly on the instructional choices they made and the tools and practices they decided to use. All focus group interviews were audio-recorded and then transcribed using automated transcription (TEMI). Transcripts were then reviewed and cleaned by the interviewers. As with the teacher log data, we extracted all excerpts from the teacher focus group transcripts that discussed the use of our forestry lessons ($N = 19$).

The third data source is a closer look at one club's use of the CLT lesson. We chose to highlight the CLT lesson because it was the forestry lesson that clubs used more often. The study authors facilitated the CLT lesson in one of the middle school clubs in November 2024. During the lesson, we took pictures, engaged in conversation with the students and collected written reflections from those students who were willing to share ($N = 9$). These reflections focused on what the students learned from the lesson, why they think forestry will be important in their community now and in the future, and whether they have any interest in pursuing a career in forestry. After the lesson, we interviewed the teacher who runs the club about the lesson itself, the importance of teaching forestry in her school, and her own thoughts about the role of forestry in her community. This interview with the teacher was audio-recorded, transcribed, and cleaned in the same way as the focus group interviews.

Data Analysis

Each of the three data sources were analyzed using different methods based on the nature of the data. The teacher log data provided both quantitative frequency counts and qualitative descriptions from the teachers about the lessons used. The qualitative descriptions of how teachers used the lessons in their clubs were coded thematically (Williams & Moser, 2019). Lesson frequencies were analyzed at the club level, at the grade level (elementary, middle, and high school), and by region of the state (Eastern, Western, Southern, and Coastal Oregon), as we hypothesized that each of these distinctions would be relevant to the teachers' place-based decisions about which lessons to use and how to use them.

Teacher focus group data that mentioned forestry were analyzed qualitatively using project-developed *a priori* codes for traditional and contemporary practices in teaching language and science (Buxton & Lee, 2023). For example, we distinguish between language practices that seek to replace students' "everyday" language with "academic" language (traditional) and practices that guide students to see language registers as a continuum (contemporary). Similarly, we distinguish between science practices that prioritize the learning of discrete science concepts (traditional) and those that promote the application of related science concepts to social problems (contemporary).

Data from our teaching of the CLT model lesson consisted of researcher notes from the lesson, the middle school students' reflection worksheets that they completed, and the teacher interview. These data were also analyzed qualitatively, using open thematic coding as well as our *a priori* codes for traditional and contemporary practices. In the findings, we present this model lesson through a vignette that synthesizes the key points from our analysis.

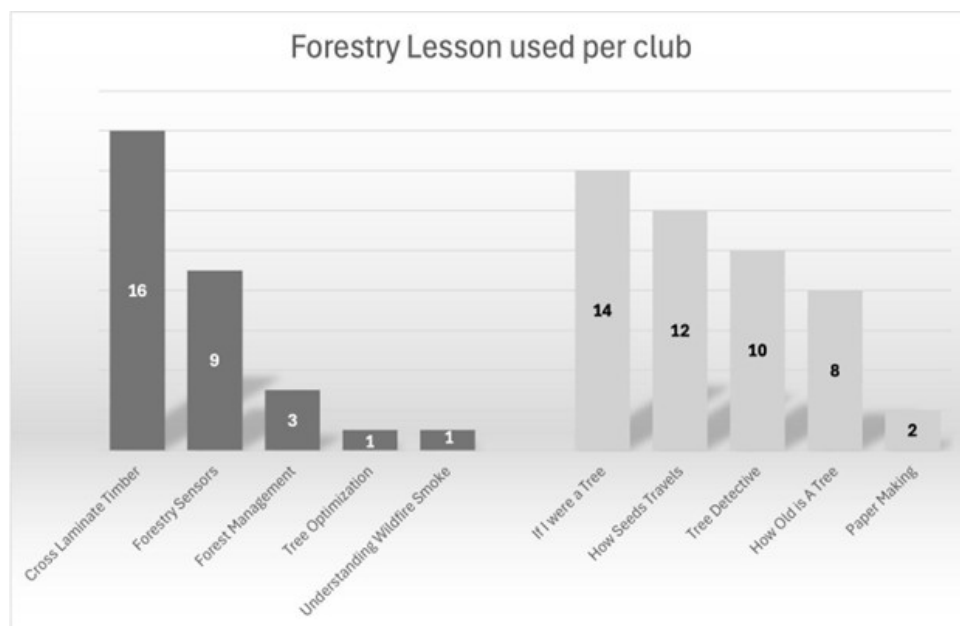
Ethical Procedures Followed

This study was conducted in accordance with the ethical standards of the Oregon State University Institutional Review Board (IRB) and was approved on September 1, 2021 (Protocol #IRB-2020-0646). Informed consent was obtained from all individual participants included in the study.

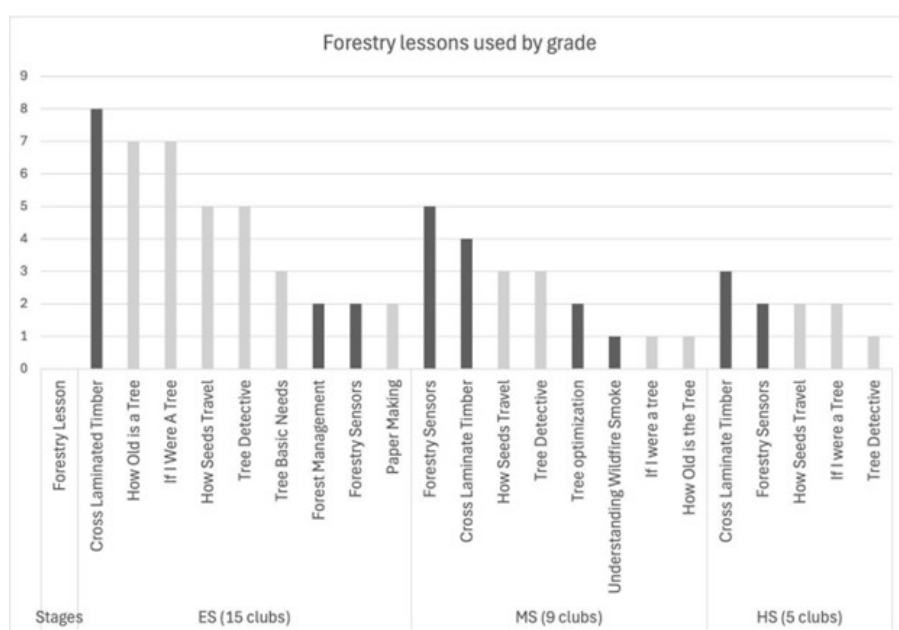
Findings

Teacher Log Data

From Fall 2021 to Fall 2024, teachers reported which lessons they used in their clubs. A total of 28 clubs submitted teacher logs during this period. Of the ten forestry lessons we developed (Table 2), 24 clubs reported using one or more of the smart forestry lessons (dark gray), and 22 clubs reported using one or more of the traditional lessons (light gray) (Figure 1). The Cross-laminated timber (CLT) lesson was used most frequently, with sixteen clubs reporting use of the CLT lesson.

Figure 1*Forestry lessons used per club*

When considered across student grade levels (Figure 2), we noted some areas of consistency (e.g., the average number of forestry lessons taught remained between two and three per club across the grades) and some differences (e.g., secondary grade clubs were more likely to choose the smart forestry lessons while elementary clubs were more likely to choose the traditional forestry lessons). The fifteen elementary school (ES) clubs reported using forestry lessons 41 times, with the CLT lesson used most (8 times). The nine middle school (MS) clubs used forestry lessons 20 times, with the CLT lesson being the second most used lesson (4 times), and five high school (HS) clubs used forestry lessons 10 times, with CLT being the most used (3 times).

Figure 2*Forestry lessons used by grade*

When considered across regions of the state (Figure 3), we again observed similarities and differences. Teachers from the eight clubs in southern Oregon used the most forestry lessons, twenty-three. This is not surprising, since Southern Oregon is covered by mixed conifer forests and has a long tradition of forestry. Thus, we expected the clubs in this region to be the most engaged with forestry lessons. Also, the three clubs from the Coast Range, a region covered by Douglas-fir forests, used the same proportion of lessons as clubs in the Southern Oregon region. However, clubs in the Willamette Valley and Eastern Oregon, regions with significantly less forest land (Figure 4) and less history of engagement in the forestry industry, also used a wide variety of these lessons, although less frequently than the clubs in Southern Oregon and the Coast Range. This indicates statewide interest, at least on the part of the teachers, in teaching their students about forestry topics and careers, even in regions of the state with less forest land.

Figure 3
Forestry lessons used by region

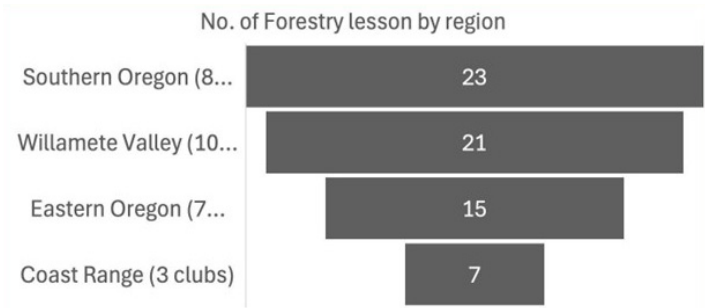
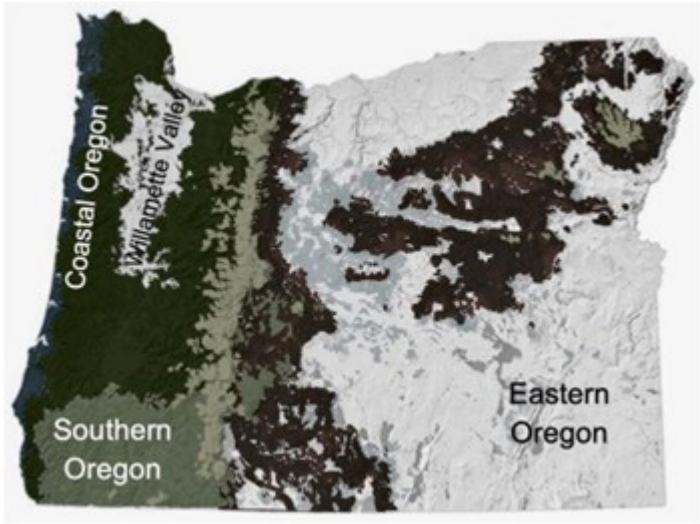


Figure 4
Oregon Forest Cover



Note. Adapted from Oregon Forest Resources Institute.

Teachers also used the logs to share affective information, such as describing what they appreciated or found challenging about the forestry lessons they used in their club meetings. For example, an elementary teacher from the Willamette Valley shared that the CLT lesson “provided [students] the opportunity to realize that wood can be used in various ways and how it impacts the building industry and the world.” Similarly, a teacher from the Coast Range shared:

We live in a heavily forested, rural area where logging is the main source of jobs. Kids are invested because many parents work in the logging industry, and many of our kids enjoy being out in nature and doing nature walks. It is fun to learn more about our native trees. (High school teacher, Coast Range)

These examples highlight how teachers viewed cultural and community connections to science as a rationale for using the forestry lessons.

Teacher Focus Group Data

The teacher focus groups provided teachers with a deeper opportunity to reflect on their use of the LaCuKnoS tools, practices, and lessons compared to the short teacher log forms. We were particularly interested in the connections teachers made between their use of our forestry model lessons and our project practices focused on communication skills, cultural connections to science, and knowledge building around science-related careers. In short, we wondered whether the teachers observed evidence supporting our hypothesis that the forestry lessons would enhance students' content-area language learning.

More specifically, we hoped that teachers would use our model forestry lessons to support their students in making more strategic language choices rather than feeling pressure to replace students' everyday language with academic science language. Research has shown that when students feel that they have ownership of their language choices in science, they are better able to construct and communicate scientific meaning in ways that can foster their interests and identities as science learners (Aschbacher *et al.*, 2010). For this to happen, teachers need to facilitate how students solve problems together; as this teacher expressed,

For example, with the Cross-laminated timber, we put them in groups for how to build their designs first and discuss their designs. And they had to agree on a design before they could come up and start asking for their materials. And it was a group effort to learn the details and make sure that everybody understood before you could go on to the next step. But we had a couple kids that wanted to do it on their own and ended up just sitting there until they finally joined a group and started presenting their ideas to the group that they joined. And they took both ideas and put 'em together and were able to expand and they did a fantastic job. (Middle school teacher, Willamette Valley)

This example highlights the collaborative nature of science learning, the importance of planning and designing work using multiple modalities (in this case, drawings and models) before starting an investigation, and the value of students sharing and refining their ideas together. Thus, this teacher emphasized the value of our language practice, *using multimodalities and translanguaging to make and share meaning*. In contrast, the following teacher focused on applying the LaCuKnoS language development tools, such as language boosters and multilingual concept cards, to help her students develop language practices to support their science sense-making,

The second thing that we did was we started using more visual aids, like the presentations for the forestry stuff so that they can have like an image, the definition, but we kind of just took the information from the language booster and just kind of closed any missing gaps. And then that went with the definitions with the language booster. That was very helpful. (High school teacher, southern Oregon)

While some of the teachers reflected on how our model forestry lessons supported their students in developing new language or using existing language for to deepen their science understanding, other teachers highlighted the cultural and community connections that they saw and heard from students during the forestry lessons. As we argued earlier, a focus on language development that fails to integrate attention to cultural and place-based connections will likely privilege the development of narrow academic English at the expense of both home language development and the broadening of student language registers. In the following quote, a high school teacher highlights place-based connections she made to forestry as well as how, specifically, she adapted the "managing Oregon's forests together" lesson to better fit her community; a clear example of how we encourage teachers' adaptations (or multiplicities of enactment) of our lessons,

We did the one for "Managing Oregon's forests" with our high school students. And we don't have a forest around our area. So, we talked about the agriculture around us, the rotation of whatever they're planting that year. So, it's not always the same in the same field. We talked about crop rotation and we made connections to the BLM [Bureau of Land Management] and how they manage the land, more than anything for the fires, because that's what's really big around our area. A lot of our students, parents, or uncles, or family work for the BLM during the summer. And a lot of them work in agriculture. So yes, a lot of our students may have never been in a forest, but they were able to understand and make the connections of how to take care of what's around you. (High school teacher, Eastern Oregon)

Beyond connecting language and community, we hoped that the teachers would use our forestry lessons to teach broader science practices. Learning to recognize where and how our project practices are embedded in the model lessons is a central focus in our professional learning workshops. We asked teachers to consider how those practices can be applied to any lesson (not just our model lessons), and in the focus groups, we saw evidence that this was starting to occur. One teacher reflected on how he adapted the CLT lesson to highlight additional science practices, such as *experiencing how science knowledge is built and accepted*, as his club worked together to design tests for the strength of their CLT constructions:

We did the Cross-laminated timbers, and we made it into a challenge and that was most likely the first time any of those students had ever heard about structures being made out of lumber of that size. I mean most of their houses are made out of two by fours and two by sixes but we were able to show them the large magnitude of the abilities of wood and actually having them create a small model and then testing it to see how much weight it can hold and withstand. So I think that was one of those things that's completely new knowledge for a lot of the kids. Plus, our kids don't see a lot of large trees. (Middle school teacher, Eastern Oregon)

Thus, the focus groups provided the teachers with an opportunity to reflect together on how they used our forestry lessons as a place-based and community-relevant topic in their clubs. Overall, these conversations helped us see the multiple ways in which the LaCuKnoS tools, practices, and model lessons allowed teachers in the project to integrate the teaching of language and content in ways that supported sense-making for all of their students, taking into account the linguistic, cultural, and ecological backgrounds of their communities.

CLT Model Lesson Example

Vignette - How the CLT lesson fostered content area language learning

The middle school was located at the edge of town, in sight of foothills covered in fir trees that extended away into the distant mountains. School was letting out for the day as we arrived and made our way to Ms. Field's science classroom, where the after-school SMILE club meets. Over the next 10 minutes, students got and ate snacks, chatted together and then got seated and ready for the club meeting. Our team had worked with Ms. Field for the past three years during multiple professional learning workshops and we had participated in several other activities at her school. We knew that Ms. Field had a university degree in forestry and a strong interest in her rural students learning about agriculture, forestry and other applied sciences to engage and motivate them more broadly to see value in their education.

Francisca, a professor of forestry, led the students through the CLT lesson by starting with background information about forestry, concepts of renewable materials, wood grain, wood strength, and an explanation of cross-laminated timber. Using a video, she showed the manufacturing process of a CLT panel with examples of buildings in our state. After that, she presented activity materials to the students and physically demonstrated the process of building a wood panel in which wood is not crossed (arranged in a parallel fashion). After that, she did the same for the process of building a small version of a cross-laminated timber panel using the same amount of materials as the parallel panel. At the end of the lesson, she showed the students finished (dried) panels so they could see and experiment with them, testing their strength and flexibility.

While the students constructed their CLT models, Ms. Field prepared an extension activity that was an adaptation of our model lesson. She added bubble solution to plastic cups and then gave each student a rectangular piece of pine wood and asked if they could use the wood to blow bubbles in the cup. Students were surprised to see that the wood acted like a drinking straw because of the xylem or wood fibers in the wood that carry water up a tree trunk. This clearly demonstrated for the students why wood is normally stronger across the wood grain and weaker along the grain (because of the wood fiber arrangement). Students were asked to use this evidence to explain why cross lamination is an effective technique for making wood stronger.

As we observed the students during the lesson, we were pleased to see how they simultaneously engaged in using science practices, communicated about what they were learning using a range of linguistic and non-linguistic modalities, and made connections between the activity and the needs and resources of their community. One student summarized this well during our reflection activity when she noted, "I learned that wood is stronger when you cross it. Forestry is important in our town because we need wood to build houses, and we also need to protect wildlife."

After the lesson, as the students packed and headed home, we chatted with Ms. Field about our forestry lessons and what value she saw in them for her students. We were impressed by the connections she made between practices for supporting language development, cultural connections and applied knowledge building, as she considered how she would adapt the lesson specifically for her students. "So if you have pictures of horizontal and vertical and then labels for what we actually call that in the timber industry – isotropic and anisotropic – having the words up there and then if people have heard of abiotic or something to tie it to ISO-metric or iso, with triangles like isosceles.

Some of them will have heard those terms. And then, when we talk about the strength of the vertical versus the horizontal, maybe start that part by asking who has split firewood. And I thought about string cheese and that whole cultural experience 'cause they just had string cheese for snack. So is it easier to peel the strings or to break it in half, and it will bend before it breaks?... And I just happened to have those oak tubes. And that's what I thought about when you were doing the arm motions. The more modeling you can do of stuff, the better and stronger [the learning] is gonna be because they can do both the visual and the auditory."

Participating in the CLT model lesson with Ms. Fields' club reinforced and made visible for us the critical importance of holding an integrated view of language, cultural and knowledge practices if we are serious about providing equitable learning experiences for multilingual learners, especially in the secondary grades.

Discussion and Conclusions

In this study, we asked the question, how do teachers in the LaCuKnoS project use the topic of forestry in ways that teach English language development and applied science knowledge while also strengthening cultural and community connections to science? Through our analysis of teacher log data, teacher focus groups, and direct experiences facilitating this work with teachers and students, we conclude that teachers relied on a combination of their own unique interests and backgrounds, their knowledge of their specific students and communities, and what they learned from the resources we provided, to make intentional pedagogical choices and to adapt these resources to meet their needs. Teachers found that the forestry lessons we developed provided clear and practical examples of how to enact our pedagogical model.

More specifically, to support language development for improved science communication, teachers often relied on our project tools, such as language boosters and concept cards, that reinforced the practice of making strategic communication choices rather than attempting to replace students' everyday language with the academic language of science. Teachers also reflected on how embedding these tools in the model lessons helped them remember the importance of attending to language as part of the science lessons they taught.

To support cultural and community connections to science, teachers recognized that they can and should modify the examples and activities in our lessons to make them more relevant to their students' lived experiences. The teacher who shared how she used the example of crop rotations in agriculture to explain forest management to her students clearly shows how this can be done. Elsewhere (Buxton, 2025), we have proposed a model of community-sustaining pedagogies to elevate multiple local voices and perspectives in ways that help students generalize their understandings from the local to the global level. Teachers in the project have begun to reflect this approach in their after-school clubs.

While we see many potential implications for this work, we conclude with just a few that seem to be most important in an increasingly uncertain world. First, for teachers whose primary role is to teach English to speakers of other languages, our research reinforces the well-established idea that English can and should be taught

in contextualized ways that simultaneously build relevant content area understanding through the application of new language for the understanding of new content (Turkan *et al.*, 2014). At the same time, disciplinary content can be used to better connect English to cultural and community resources, such as through community relevant topics or home languages (Grapin *et al.*, 2023). While the topic of science, and the more specific sub-topic of forestry, is just one example, we have argued that science is a particularly useful subject to apply in ESOL education due to its everyday relevance and connection to fast-growing career fields. At the same time, we have shown that content-area teachers must be full partners in this work as they learn to integrate content area language teaching into their instruction.

Thus, the clearest implication for content area teachers is that they cannot offload the work of language learning to their ESOL or English language arts colleagues. While a co-teaching model may be ideal, the reality is that most content area teachers will not have an experienced ESOL co-teacher on a regular basis, if ever. Instead, science teachers must take ownership of this piece of their teaching, seeking the help of ESOL specialists when possible while also developing this expertise for themselves over time.

We believe that the primary implication for teacher educators, professional development providers, and educational researchers parallels this implication for teachers. Much like teachers, many teacher educators see themselves as narrow content area experts who may resist, either explicitly or implicitly, the idea that they need to integrate content area language learning strategies into their own work with teachers, rather than leaving this work to a colleague. The LaCuKnoS project-forestry model lessons and the CLT lesson in particular, provide concrete examples of what such integration can look like.

Following our design-based approach to research, we continue to work with teachers to co-design new model lessons and revise our project tools and practices. In the next phase of the work, we also plan to include students as co-designers, working alongside the teachers to deepen the cultural and community connections in our lessons, tools, and practices. Further iterations of our professional learning model can help teachers develop additional place-based and community-relevant topics to bridge from our theoretical pedagogical frameworks to practical teaching methods for content focused language learning.

Notes:

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Availability of data:

Data from this research is available in an anonymized form upon written request to the project PI (Buxton) in line with the policies of the funding agency and our home institution.

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Social Relevance of EFL Digital Resources: Cultural, Linguistic, Pedagogical, and Semiotic Perspectives

**Relevancia social de recursos EFL:
perspectivas culturales, lingüísticas, pedagógicas y semióticas**

**Relevância social dos recursos de EFL:
perspectivas culturais, linguísticas, pedagógicas e semióticas**

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Abstract

This study examines the communicative affordances and limitations for culturally sensitive and linguistically relevant practices to the context and its population, inherent in the semiotic resources and communicative modes of an English as a Foreign Language (EFL) teaching digital platform used in an undergraduate program on Bilingualism and Bilingual Education at a private university in Colombia. Data were collected directly from the platform and analyzed through a multimodal lens, drawing on the frameworks proposed by Callow (2013) and Van Leeuwen (2005), from which a priori codes were identified and employed. Categorical themes of broader heuristic significance emerged from such coding processes, particularly concerning the intermodal relations present in the design and layout of the platform and their implications for student participation, collaboration, production, motivation, and inclusion. The findings revealed that analyzing instructional materials through a multimodal lens helps identify key areas for improvement, enhancing learner engagement and interaction in language learning. The integration of both verbal and visual elements in materials can enhance clarity, making content more accessible and reinforcing learning objectives when appropriately balanced. However, the LicBi platform reinforces cultural stereotypes and fails to promote intercultural awareness, limiting learners' ability to critically engage with diverse perspectives and develop essential skills like cultural sensitivity and global competence. The platform's design prioritizes aesthetic symmetry over pedagogical interaction, creating a visual distance that reduces opportunities for meaningful communication and participation. Semiotic resources are underutilized, with visuals often serving decorative rather than instructional purposes, resulting in a lack of authentic, functional, and reflective language learning experiences.

Resumen

Este estudio examina las posibilidades y limitaciones comunicativas para el desarrollo de prácticas culturalmente sensibles y lingüísticamente pertinentes al contexto y su población, presentes en los recursos semióticos y modos comunicativos de una plataforma digital utilizada para la enseñanza del inglés como lengua extranjera (EFL) en un programa de pregrado en Bilingüismo y Educación Bilingüe de una universidad privada en Colombia. Los datos se recolectaron directamente de la plataforma y se analizaron desde una perspectiva multimodal, con base en los marcos teóricos de Callow (2013) y Van Leeuwen (2005), a partir de los cuales se identificaron y aplicaron códigos a priori. De estos procesos emergieron categorías temáticas de valor heurístico más amplio, relacionadas con las relaciones intermodales del diseño y su impacto en la participación, colaboración, producción, motivación e inclusión del estudiantado. Los hallazgos muestran que el análisis multimodal permite identificar áreas clave de mejora que pueden fortalecer el compromiso del estudiante y su interacción en el aprendizaje. La integración equilibrada de elementos verbales y visuales mejora la claridad, facilita el acceso al contenido y refuerza los objetivos de aprendizaje. Sin embargo, la plataforma LicBi reproduce estereotipos culturales y no fomenta la conciencia

Keywords:

higher education, English as a Foreign Language, virtual learning, social semiotics, cultural sensitivity.

Palabras clave:

educación superior, inglés como lengua extranjera, aprendizaje virtual, semiótica social, sensibilidad cultural.

intercultural, limitando el desarrollo de habilidades como la sensibilidad cultural y la competencia global. Su diseño prioriza la simetría estética sobre la interacción pedagógica, generando una distancia visual que reduce oportunidades de participación significativa. Además, los recursos semióticos están subutilizados, con imágenes que cumplen funciones decorativas más que instruccionales, lo que afecta negativamente la autenticidad y profundidad del aprendizaje.

Resumo

Este estudo examina as possibilidades e limitações comunicativas para o desenvolvimento de práticas culturalmente sensíveis e linguisticamente relevantes ao contexto e sua população, presentes nos recursos semióticos e modos comunicativos de uma plataforma digital usada no ensino de inglês como língua estrangeira (EFL) em um curso de graduação em Bilinguismo e Educação Bilíngue de uma universidade privada na Colômbia. Os dados foram coletados diretamente da plataforma e analisados sob uma perspectiva multimodal, com base nos referenciais teóricos de Callow (2013) e Van Leeuwen (2005), a partir dos quais foram identificados e aplicados códigos a priori. Desses processos emergiram categorias temáticas de valor heurístico mais amplo, especialmente vinculadas com as relações intermodais do design da plataforma e suas implicações na participação, colaboração, produção, motivação e inclusão dos estudantes. Os resultados revelam que a análise multimodal permite identificar áreas-chave de melhoria que podem fortalecer o engajamento dos alunos e sua interação no processo de aprendizagem. A integração equilibrada de elementos verbais e visuais contribui para a clareza, acessibilidade do conteúdo e reforço dos objetivos pedagógicos. No entanto, a plataforma LicBi reproduz estereótipos culturais e não promove a conscientização intercultural, limitando o desenvolvimento de habilidades como a sensibilidade cultural e a competência global. Seu design prioriza a simetria estética em detrimento da interação pedagógica, criando uma distância visual que reduz as oportunidades de participação significativa. Além disso, os recursos semióticos são subutilizados, com imagens que desempenham um papel mais decorativo do que instrucional, comprometendo a autenticidade e profundidade da aprendizagem.

Palavras-chave:

educação superior, inglês como língua estrangeira, aprendizagem virtual, semiótica social, sensibilidade cultural.

Introduction

Language teaching materials have been studied extensively from various perspectives. Tomlinson (2023) highlights a growing recognition of the importance of pedagogical material development in recent years. These materials can be classified as (1) curriculum artifacts, which facilitate learning, and (2) cultural artifacts, which encompass the socially constructed meanings of semiotic resources and communicative modes in language and social interaction (Yassine, 2014; Tomlinson, 2023). When materials are viewed solely as curriculum artifacts, analyses may overlook essential connections between teaching practices, learning experiences, and their sociocultural contexts. By assessing materials through a socio-semiotic lens, where learning emerges from opportunities for students to interact with their sociocultural and physical environments, we can better evaluate the affordances and limitations for knowledge construction.

As such, this study adopts a sociocultural-based approach to evaluating materials, exploring their diverse semiotic resources and communicative modes within the context of meaning-making (social semiotics). Specifically, the article focuses on the interplay of these resources and modes in an English as a Foreign Language (EFL) learning platform, examining how these interrelations present both affordances and limitations for instruction and learning processes.

To achieve this, we delve into the relationships among social semiotics, instruction, and learning. We then outline our framework for semiotic analysis within a case study, followed by a data-driven discussion of the identified affordances and limitations for culturally sensitive communication and learning-conducive practices through the use of the platform. Finally, we draw conclusions regarding the pedagogical implications for EFL instruction and learning.

We assert that learning results from participative communication and communicative action; therefore, effective instruction should aim to create proactive, equitable, and safe communicative environments that empower students to advocate for their own learning (Escobar-Alméciga, 2022; Escobar-Alméciga & Brutt-Griffler, 2022; Rojas & Escobar-Alméciga, 2023). Additionally, we argue that a virtual learning platform introduces complexities that challenge the nature of culture, communication, participation, collaboration, and actions conducive to effective learning.

Meaning-making, Instruction, and Learning within a Social-semiotic Perspective

Human interaction and communicative behavior have been profoundly influenced by technological advances, resulting in significant and rapid changes over the past few decades. The constant flow of information and the growing opportunities for digitally mediated interaction have led to the emergence of new communicative channels, modes, and approaches. Today, communication occurs within a complex interplay of historical, cultural, intellectual, affective, and social (semiotic) resources among individuals (Escobar-Alméciga, 2015, 2022; Escobar-Alméciga & Brutt-Griffler, 2022; Rojas & Escobar-Alméciga, 2023), frequently mediated by technology. This dynamic interplay encompasses a variety of communicative modes, including writing, color,

images, gestures, speech, silence, layout, and the like. In all instances, meaning-making is both emergent and governed by sociocultural factors (Escobar-Alméciga, 2020).

Multimodality in Social Semiotics

Social semiotics examines the systems of signs and their role in shaping and transforming meaning within the sociocultural and situational contexts of communication (Callow, 2013; Escobar-Alméciga & Brutt-Griffler, 2022; Rojas & Escobar-Alméciga, 2023). This framework facilitates the analysis of various types of signs, the semiotic work of designers, and the potential opportunities and limitations for meaning-making, knowledge construction, and appropriation. It underscores the importance of two primary factors: form (the sign itself) and concept (what the sign represents).

According to Van Leeuwen (2005) and Kress (2010), signs do not exist in isolation; rather, they are embedded within individual and collective referents shaped by historical, intellectual, social, cultural, and emotional backgrounds. The interconnection of the sign's appearance and its representation is influenced by the contexts in which it operates. Therefore, understanding signs is better accomplished in light of their broader sociocultural conditions.

Consequently, it is essential to shift the focus from the sign itself to the ways in which individuals collectively create, transform, use, and interpret sign systems through interaction. This perspective emphasizes the dynamic nature of meaning-making, revealing how context and collaboration play crucial roles in the semiotic process. By recognizing these interactions, we can better understand the complexities of communication and the construction of meaning in various sociocultural settings.

This analytical shift—from viewing signs as isolated entities to understanding them within contextual and relational frameworks—profoundly changes our understanding of meaning in communication and how this is accomplished through a multiplicity of modes rather than only speech (Christensen, 2016; Paskaleva, 2024; Yi, 2024). In this view, meanings are constructed, shared, and rearranged through a multitude of modes, including writing, speech, images, color, layout, and auditory elements (Callow, 2013).

Analyzing multimodality through a social semiotic lens, however, involves not only examining these modes individually but also recognizing their sociocultural grounding. Different societies employ specific modes for distinct purposes, and Kress (2010) identifies three crucial factors to consider: (1) the social and cultural domains a mode covers, (2) the capabilities and constraints of the mode within these domains, and (3) the presence or absence of certain semiotic features within the mode. Addressing these factors deepens our understanding of the potential and limitations inherent in various modes and provides insight into how they come to be and are interpreted across cultures.

To expand its scope, Fairclough (2003) shifted from using the term *discourse* to *semiosis*, which he defines as encompassing "language and other semiotic modes such as visual images," while employing *text* to describe the semiotic components of social events, whether written, spoken, or multimodal, as in the case of television texts (p. 226). Within this framework, analyzing texts through Fairclough's perspective

involves uncovering how they naturalize, challenge, or reproduce knowledge, ideologies, beliefs, attitudes, and values (Fairclough, 2003).

Fairclough (2011), Gee (2011), and Kress (2011) emphasize the importance of equitable access to educational semiotic resources, raising critical questions about whether everyone can effectively navigate digital environments, for instance. They highlight how such ability is shaped by various factors, including socio-economic conditions, educational background, technological skills and even the geographical characteristics that the user inhabits. In a similar concern, Escobar-Alméciga (2020) expands the discussion by exploring the ways in which layout, in its broadest sense, has a role in virtually mediated class interaction. In his explanation, layout is a communicative mode that integrates visual elements, written texts, learning-teaching activities, and discourses, all of which contribute to the process of meaning-making and student engagement.

In educational contexts, the cause-and-effect relationship of texts and modes requires careful analysis. Each interplay of modes and resources within teaching and learning experiences influences students' discourse, behavior, and overall communicative possibilities. Hence, teaching and learning quality can better assessed by examining the opportunities created for connecting to previous knowledge and experience, to partake in the social and emotional negotiations, and acting autonomously in pursuit of learning.

In conclusion, multimodality offers a comprehensive framework for understanding communication as an intricate system of semiotic resources and communicative modes, with meanings shaped, shared and negotiated within communities. Thus, multimodality serves as a powerful lens for analyzing the relationships among modes in their sociocultural contexts, shedding light on the complex dynamics of meaning construction in human communication. In the particular case of pedagogical materials, it helps us understand the nature of interactions among texts, images, colors, and similar semiotic resources they are arranged and deployed in communication in pursuit of teaching and learning.

Methodology

This is a qualitative multimodal semiotic analysis (Callow, 2013; Unsworth, 2006) on an online English-learning platform. The platform caters to adult learners in advanced English proficiency levels (C1 according to the Common European Framework of Reference for Languages - CEFR). It comprises twelve units, including an online coursebook and workbook, along with video activities, tests, and grammar references. This language-learning material is used in a bilingual education teaching credentialing undergraduate program¹. More precisely, at a private University located in the North of Bogotá, Colombia. This particular study inquiries into the platform's layout as a mode of communication (Escobar-Alméciga, 2020) and the ways that semiotic resources and communicative modes therein interact with one another in their affordances and limitations for promoting (or not) aspects like participation, collaboration, interaction, investment, agency, solidarity, communication, and production.

Data and Data Analysis

The aforementioned online platform, referred to as the LicBi platform is organized in twelve units (with a checkpoint section² every three units), each one containing four language lessons (two focused on grammar/vocabulary and two focused on skills) and two additional sections, one for writing and the other for vocabulary. Each unit is designed as a stand-alone section that can be studied independently from the others. The units cover a variety of topics, including technology, society, and history, among others.

The structure of each grammar, vocabulary, or skills lesson follows a sequence that typically begins with outlining the lesson aims and then develops grammatical and lexical content in context, with spaces for practice and consolidation. There are also activities that aim at developing both receptive and productive skills such as reading/listening comprehension exercises and reflective blogs and discussion forums. In addition to the language-focused lessons, there is one devoted entirely to developing writing skills and another focused on vocabulary building.

The previously outlined components are part of a scope and sequence in which contents are categorized into the following areas: (1) functions/topics, (2) grammar, (3) vocabulary, (4) conversation strategies, and (5) speaking naturally. Additionally, there is a comprehensive skills section that includes: (1) listening, (2) reading, (3) writing, (4) vocabulary notebook, and (5) grammar extra. This organizational structure is consistent across all units, enabling users to develop language skills in an integrated manner.

The data collected involve the diversity of modes encompassed in the different sections of the LicBi platform. Furthermore, the study analyzes the platform's layout as a mode of communication and the ways that semiotic resources interact with one another throughout the different modes present in the material. Hence, the study takes into account the relationship between different meaning-making elements while exploring their pedagogical implications and communicative potential for learners.

Exploring how different modes and resources are configured within the platform—and how such configurations may afford or constrain meaning-making in the learner's communicative action—is essential to understanding the possibilities students have for participation, interaction, collaboration, and, consequently, learning. To this end, a set of *a priori* codes was developed to analyze the potential effects of text-image arrangements on the viewer/reader (i.e., the student). Three of the twelve units (Units 1, 6, and 12) were selected to ensure an evenly distributed sample across the platform. These units—representing the beginning, middle, and end of the course—were chosen to examine how modes function and evolve throughout the material.

Coding Processes and Procedures

The coding process integrates the frameworks proposed by Callow (2013) and Unsworth (2006), drawing on *a priori* codes related to the multimodal analytical tasks outlined in their work. As a starting point, Callow's (2013) framework provides both the codes and the coding cycle used to identify and discuss how semiotic resources and communicative modes interact in the construction of meaning within the platform, as illustrated in Table 1.

Table 1*The effect of text-image arrangements on the reader or viewer*

Analytical codes	Multimodal analytical tasks
Salience	Descriptions of the elements and ways in which they attract the viewer' attention.
Reading Paths	Accounts of the reader's movement or gaze around the page and explanations about what might be directing such movements.
Placement	Descriptions of proximity, symmetry, balance, and grouping of objects and textual elements in the page.
Layout	Descriptions of actual and symbolic margin positions as well as their forms and functions.
Framing	Discussion on the extent to which text and image frame each other and the ways in which such framing occurs.

Note. Based on Callow (2013).

In this first coding process, we examined the different sections of the platform, looking at the ways in which the above conceptual categories happen or fail to occur. Diving deeper into the way semiotic resources and modes in the platform collectively construct meaning, a subsequent coding procedure involved Unsworth's (2006) framework, in which we analyzed the metafunctional organizations of meaning-making resources and modes. Here, we analyzed the ways in which verbal and visual resources come to represent the nature of events, people, objects, and the types of relationships that are made possible within the contextual and sociocultural conditions provided.

Table 2*Metafunctional organization of meaning making resources*

Analytical codes (meaning-making resources)	Multimodal analytical tasks
Representational/ideational	Descriptions of the ways in which verbal and visual structures construct the nature of events, the objects and participants involved and the circumstances in which they occur.
Interactive/interpersonal	Explanations of the ways in which verbal and visual resources construct the nature of relationships among speaker/listener, writers/readers, and viewers and what is viewed.
Compositional/textual	Descriptions of the ways in which distribution of the information value or relative emphasis among elements of the text and image.

Note. Based on Unsworth (2006).

The last level of analysis was concerned with looking at the ways in which the arrangement of semiotic resources and modes (see Table 1) unveiled metafunctional organizations (see Table 2), and how that may have resulted in interpersonal meaning (see Table 3).

Table 3*Constructions of interpersonal meaning*

Types of meaning	Categories	General descriptions
Interactive	Demand	Gaze is directed towards the viewer demanding response.
	Offer	Gaze is not directed towards the viewer and provides a portrayal for the viewer's contemplation.
Evaluative	Attitude	Three subcategories: 1) Affect: expressions of feelings. 2) Appreciation: relates to evaluations of objects, events or states of affairs. 3) Judgment: assessment on capacities, characteristics, truthfulness.
	Engagement Graduation	Not addressed in the framework

Note. Based on Unsworth (2006).

In short, there were three broad levels of analysis in this study: (1) First, an examination of the ways in which design has an effect on the user, and hence, on meaning. (2) Second, an analysis of the relationships established between text and image at the ideational, interpersonal, and compositional levels and the affordances and limitations it could present for the viewer/reader. A final level of analysis delved into the ways in which the first and the second levels of analysis unveiled aspects related to sociocultural relevance and sensitivity, and how that may have an effect on the interaction, production, and collaboration of the students.

Findings and Discussion

Semiotic resources are configured and deployed in a multiplicity of communicative modes in the quest for meaning-making. At different levels, communicative modes give way to endless denotative and connotative layers of meaning within an intricate interplay of the individual, collective, physical, emotional, emergent, sociocultural, contextual, situational, historical, and cognitive domains of human life when the right conditions are afforded. That is, when communicative environments welcome, cherish, and benefit from the person's particularities, backgrounds, and cosmogonies in the exchange of knowledge, feelings, identities, cultures, histories, stories, and so on, people have greater opportunities to participate and to learn (Escobar-Alméciga, 2022; Escobar-Alméciga & Brutt-Griffler, 2022; Rojas & Escobar-Alméciga, 2023). As such, this section accounts for the ways in which semiotic resources and modes in the platform act and interact in the meaning-making process, and whether those interactions generate affordances or limitations for participation and learning. In this regard, two comprehensive categorical themes derived from the cyclical coding process described above. The first one, *Intermodal relations* in instructional design,

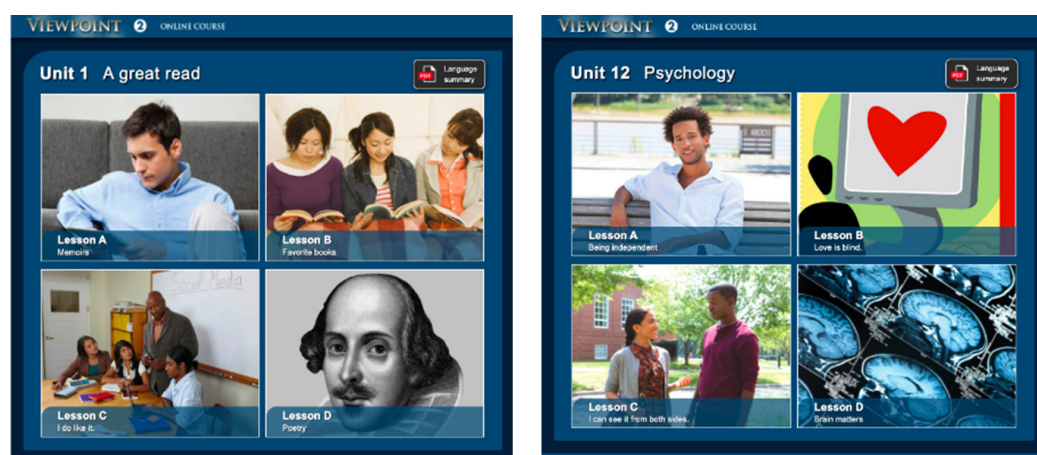
addresses the way in which semiotic resources and communicative modes are created, transformed, configured, used, and interpreted, and how such arrangements promote or inhibit interaction, participation, collaboration, and production in pursuit of learning. The second one, *cultural sensitivity*, addresses the relevance, appropriateness, and pertinence of the subjectivities that conform this virtual environment, and whether the population to whom the material caters has possibilities to relate to, act in, and interact with its contents and participants therein.

Intermodal Relations in Instructional Design for Learning

Instructional design is the principles-based creation of courses: resource selection, learning activities, assessment and evaluation strategies, communicative environments, and all other instructional-related procedures for class implementation in specific contexts and with particular goals. It requires ongoing reflection and adaptation, and entails the selection, organization, and delivery of class materials, as well as the design of ways in which students can grapple with such materials in social interaction. It is concerned with the ways students can make evident their ways of understanding, ways of knowing, and ways of using such knowledge for their own benefit as they relate to their social and physical environments (Botturi, 2003; Ragan & Smith, 1999). Examining the LicBi platform as an instructional design unveils ways in which its creators conceptualize learning and teaching processes, and the extent to which it could potentially cater to or fall short in addressing the users' needs. As such, this analysis begins with a description of the general features of the units, using the three units selected to speak to the affordances and limitations of the platform in terms of interactions, participation, collaboration, students' background knowledge, and cultural relevance and sensitivity. Figure 1 below presents the illustrations of the selected units and kick-starts a discussion on the ways codes emerged and developed into broader, comprehensive heuristic narratives.

Figure 1

Unit overview (units 1 & 12)



Note. Taken from the LicBi platform.

The instructional design of the units features a consistent and structured *layout*, using a four-quadrant grid as margins that visibly organize textual and visual elements across all units. Through deliberate *placement*, text and images achieve balance and symmetry, enhancing visual coherence throughout the material. Each lesson is distinctly *framed*, visually segmenting sections to guide learners' *reading paths*, enabling them to predict and navigate smoothly through upcoming content. This recurring organizational pattern reinforces familiarity and flow. Such an arrangement also strategically creates *salience*, capturing the learners' attention and orienting toward their interaction to desired elements within the materials.

Zooming in on the sections, in Unit 12 toward the right of Figure 1, for instance, we observe how its structured *layout* organizes four lessons (A, B, C, and D), each featuring paired text-image elements. In Lesson A, a young man is positioned centrally within the quadrant, effectively framed by neutral-tone background colors that enhance visual contrast and draw immediate attention to his upper body and smiling expression (*salience*). His open posture further guides the viewer's *reading path*, first drawing attention toward his relaxed shoulders and outward-facing arms, then gently directing the gaze outward and downward along the natural lines created by his posture. This subtle directional cue invites viewers to linger, suggesting openness, receptiveness, and an implicit invitation for interaction or engagement with the image and accompanying text. However, the visual *framing* of the image and the lesson's textual label, "Being Independent," do not fully or directly convey the intended meaning of "independence".

Lesson B presents a digitally created image that uses bold, contrasting colors to immediately draw the viewer's attention. A solid black silhouette of a person is positioned on the left-hand side of the frame; while a computer screen on the right displays a bright red heart in the center. This *placement* creates a strong sense of balance within the composition, while the direction of the figure's implied gaze helps guide the viewer's *reading path* across the image—from left to right, toward the heart. *Salience* is established through color contrast: the red heart and black silhouette stand out sharply against the soft-colored background, while other elements are subdued to maintain focus on these central figures. The image is also neatly *framed*, with each element occupying its own defined space, contributing to overall clarity and cohesion. While the visual composition suggests a symbolic relationship between the silhouette and the heart, the connection to the accompanying phrase "Love is Blind" remains general and somewhat ambiguous. The image hints at emotional focus or desire, but it does not visually unpack the layered or metaphorical meaning of the phrase, which may limit the depth of interpretation.

Lesson C portrays a man and a woman engaged in conversation in a park. The central *placement* of these two figures highlights their interaction as the main focal point. The man's expressive hand gestures and the woman's attentive gaze effectively establish *salience*, immediately attracting the viewer's attention to their exchange. Their interactive posture and gestures guide the viewer's *reading path*, first toward the man's active communication and subsequently to the woman's responsive and thoughtful listening, suggesting a reciprocal flow of the conversation. The subtle *framing* created by their proximity indicates mutual engagement and openness, offering space for the viewer/reader to feel potentially included in the dialogue. The *layout* incorporates contextual elements, such as trees and buildings in the background, enhancing the scene without diverting attention from the central figures. The visual composition

aligns with the accompanying textual label, "I can see it from both sides," implying diverse viewpoints within the depicted conversation.

Turning now to Unit 1, located on the left side of Figure 1, we observe that it maintains the same multimodal structure as Unit 12, following a consistent design logic. Clearly defined *framing* presents each lesson as a distinct yet cohesive segment, while *salience* is established through contrast and positioning to draw attention to key elements. *Reading paths* are guided by strategic placement of elements and their spatial flow, as well as body orientation, supporting intuitive navigation. Although this uniformity ensures visual clarity and cohesion, it also introduces inflexibility in the structure of themes and activities, potentially generating a monotonous experience. The repetition of layout and interaction types may limit the expressive potential of image-text relationships and reduce opportunities for deeper engagement.

This consistency in multimodal structure not only shapes the presentation of lesson content, but also extends to how learning outcomes are communicated at the end of each unit. The same principles of visual organization—such as layout, framing, and salience—continue to guide the design of these sections, ensuring coherence across the material. With this in mind, we now turn to Figure 2, which illustrates how the outcomes for Lesson A in Units 1, 6, and 12 are presented, offering insight into how the platform aligns visual and textual elements to reinforce intended learning goals.

Figure 2

Lesson outcomes (units 1, 6 & 12)



Note. Taken from the LicBi platform.

Figure 2 presents the outcome sections displayed at the end of each lesson, highlighting Lesson A from Units 1, 6, and 12. The stated goals focus on listening and reading skills, the use of language strategies, and personal reflection. The *layout* organizes this information using bullet points, contributing to visual clarity and navigability. Below the outcomes, links to an online workbook and grammar activities are included to reinforce key language points. Each outcome section also features an accompanying image that aligns thematically with the lesson content, maintaining consistent *placement* and clear *framing*. For Unit 1, a person reading represents "Memoirs"; for Unit 6, a group of individuals in a professional setting aligns with "Case Study"; and for Unit 12, a young man on a bench corresponds with "Being Independent." These images create *salience* by visually reinforcing the lesson themes and drawing the viewer's attention to the end-of-lesson reflection. However, the listed

learning expectations are framed more as instructional procedures than measurable learning outcomes. For example, Unit 1 includes statements such as "you listened, talked about, recorded, wrote," which describe classroom activities but do not clearly define communicative goals or expected student performance. This is also the case in Units 6 and 12, where verbs like *learn* are the only indicators of intended outcomes. Thus, while the visual presentation of this section is cohesive and well-organized, the content functions more as a summary of completed tasks than as a set of clearly articulated learning objectives.

To conclude our discussion on the interaction between semiotic resources and communicative modes in the platform's meaning-making processes, we wish to emphasize two key aspects that lay the groundwork for the discussion ahead.

First, although the interplay between resources and modes is both complex and deliberate, it often falls short of effectively realizing semiotic representations of the concepts being presented.

Second, while the articulation of these resources and modes appears strategic and designed to complement each other in support of meaning-making and student understanding, it does not necessarily communicate learning goals, content, or explanations with sufficient clarity. This reduces their instructional value and leaves learners without a clear sense of progress or achievement.

Cultural and Emotional Dimensions of Communication and Learning

This section examines the cultural layers embedded in the selected instructional materials through the lens of Unsworth's (2006) multimodal framework and a set of *a priori* analytical codes associated with the representational, interactive, and compositional metafunctions. These codes were systematically applied to analyze how meaning is constructed through the interplay of visual and textual modes across the materials. Their application enabled a critical reading of the ways in which cultural representations are embedded and sustained throughout the content, often reflecting underlying values and ideologies. Through this coding scheme, the analysis identifies how specific worldviews are conveyed—sometimes implicitly—through recurring multimodal patterns. The structure of the analysis is organized into three main subsections: Conventional Portrayals of Social Interaction, which explores how interpersonal scenarios reproduce familiar cultural norms; Normative Cultural Frames, which examines how everyday themes encode specific ideological assumptions; and Gender Representations, which analyzes how gendered roles and behaviors are constructed through both language and imagery.

Conventional Portrayals of Social Interaction

The material draws on conventional portrayals of social interactions, particularly within professional and consumer contexts, thereby reinforcing traditional norms and hierarchical structures. In Unit 6, shown in Figure 3, the visual content focuses on the business world across its four lessons, each introducing phrases or questions aligned with business-related themes. In Lesson A, the image depicts a formal meeting setting

in which a presenter stands at the whiteboard. He is prominently positioned and brightly illuminated, standing out against a more subdued background and the darker clothing of the seated participants—an arrangement that shapes the viewer's understanding of roles and identities within the scene through representational choices. The presenter looks older than everyone else and occupies a standing position while addressing a mixed-gender group of seven individuals seated attentively around a table. Their posture and collective gaze toward the speaker contribute to the construction of a coherent and unified social event, again reflecting representational meaning-making. The use of natural light enhances the prominence of the presenter, guiding the viewer's gaze and creating a visual flow that fosters interpersonal connection—a feature associated with the interactive metafunction. This composition leads the eye from the speaker to the horizontal line of participants, allowing the viewer to trace the relational dynamics within the group. While the presenter's elevated and central position conveys authority, the symmetrical arrangement of the participants also communicates a sense of collaboration, reinforcing the visual narrative's balance of hierarchy and teamwork, both constructed through representational features. Furthermore, the whiteboard and the participants' orientation toward it create a cohesive link between textual and visual elements, exemplifying compositional coherence. The inclusion of business attire and formal posture reinforces a familiar and conventional framing of professionalism, creating a stereotypical depiction of Western corporate interaction through representational design.

Figure 3

Unit overview (unit 6)



Note. Taken from the LicBi platform.

In Lesson B, the focus shifts to a retail setting in which a woman is centrally depicted as she interacts with jewelry in a brightly lit store, visually constructing her as an active participant within a familiar consumer scenario. The use of vivid colors—seen in both the merchandise and surrounding floral elements—strategically guides the viewer's attention, enhancing the sense of engagement between the subject and her environment. Her focused look and hand movements highlight purposeful action, showing her control in the scene. The arrangement leads the viewer's eyes from her face to her hand and then to the products, creating a natural visual flow. Her inward gaze adds depth, making the viewer feel like a silent observer rather than an active participant. This design choice fosters a contemplative stance, inviting observation without interaction—a feature associated with the interactive metafunction. The overall coherence of the image, particularly the alignment between the visual elements and the lesson title "Bringing in the customers," reflects a well-structured integration of meaning across modes. However, the visual representation of shopping where a female shopper is in a retail store may erroneously enforce a direct association between femininity and the act of shopping. While effective in illustrating customer engagement, this scene ultimately relies on naturalized assumptions on gender roles, for instance and reinforce damaging overgeneralizations.

Lesson C presents two men in formal business attire engaged in what appears to be a professional conversation over a meal in a semi-formal setting. The scene conveys a familiar configuration of roles and social expectations within the business world. The image draws attention through the contrast between the dark suits and the warm, textured red-brick background, which subtly guides the viewer's focus toward the interaction between the two figures. Their expressions and hand gestures convey mutual attentiveness and involvement. Neither of the men meets the viewer's gaze, which establishes a viewing relationship that positions the observer outside the exchange, invited to watch rather than participate. The framing centers both individuals equally, suggesting the thematic focus on dialogue and shared presence within the composition. However, small shifts in posture—such as one man leaning in while the other sits more upright—introduce visual nuances that may subtly indicate differing levels of engagement or authority. These bodily cues shape how the viewer interprets social dynamics, even in the absence of clear status markers. Despite its polished design, the connection between the image and the accompanying phrase "Don't you think...?" is ambiguous, as the image lacks explicit visual indicators of rhetorical or persuasive intent. The mismatch between text and image creates uncertainty about the message's purpose, reducing the clarity of the lesson. Although the scene shows informal interaction in a professional context, its lack of visual detail limits its support for the intended language function.

Building on the previous examples, Figure 4 also reflects the material's reliance on conventional portrayals of social interactions, particularly within consumer contexts. These portrayals tend to reinforce misrepresentative patterns of communication and social behavior, often drawing from oversimplified depictions of communicative dynamics and what they should look like. In this case, the shopping environment is used once again as a backdrop to illustrate interpersonal engagement. The scene depicts a routine activity while also showing a structured interaction shaped by visual composition and body language. This type of representation aligns with the tendency of the instructional material to construct meaning through socially normative scenarios that are easily identifiable, yet rarely questioned.

Figure 4

Lesson A Grammar in context (unit 6)

Unit 6
Lesson A A case study

1 Grammar in context: Online coupons

(A) Read the Culture note. How do people get discounts (a reduction in price) when they shop? Complete the sentences with the correct expressions from the box.

i Culture note

In the U.S., at most stores it's not typical to bargain. Occasionally, for large-ticket items such as houses or cars, buyers will try to bargain down the prices. Consumers also often ask for discounts or use coupons to obtain better prices at retail stores. In some stores, rebate programs allow customers to apply for a rebate on products (such as electronic items or contact lenses). Customers have to complete information and provide evidence of their purchase, and approximately six weeks later, customers receive a rebate check in the mail.

an offer
store coupons
a rebate
get a cheaper price
negotiate

during the sales

1 One way to get discounts when you shop is to use . These typically give you 50 cents or \$1, for example, off grocery items.

2 A good way to get discounts is to shop . At these special times of the year, for example on "Black Friday" – the day after Thanksgiving – stores offer up to 75% off some goods.

3 For some items, like contact lenses, you can get . After purchasing a product, you mail in your information and several weeks later you get a check in the mail giving you money back.



Note. Taken from the LicBi platform.

The image above depicts a retail scenario in which two women appear to be sharing a moment of decision-making, illustrating a culturally recognizable interaction based on consumer behavior. One woman, standing on the left, holds a purple dress while smiling, and the other, on the right, gazes attentively at the garment—a composition that reflects collaboration and mutual engagement within a modern shopping context. Their physical closeness and mirrored body orientation convey an ongoing dialogue and a shared focus, visually capturing a moment of interpersonal connection. Both women direct their gaze toward each other and the object of interest rather than outward, structuring the interaction in a way that encourages the viewer to watch rather than to join in and, in doing so, framing the audience as external observers. The visual path is clearly structured, leading the eye from the dress to the second woman, aided by the prominence of the garment and the balanced lighting across the frame. The inclusion of neatly arranged clothing racks, shelves, and other store elements further anchors the setting in a socially familiar environment, reinforcing shared cultural norms associated with consumerism.

Despite the scene's accessibility and visual coherence, its engagement with culture remains superficial. The image conveys cultural meaning through familiar visual elements tied to consumer lifestyles, presenting social practices and values that align with dominant norms while leaving little room for alternative ways of being, acting, and interacting.

Although the inclusion of ethnically diverse figures may be intended to signal inclusivity, the absence of contextual explanation or accompanying text reduces these representations to surface-level gestures, limiting their capacity to foster intercultural understanding. As a result, the interaction depicted in the image reinforces standard social roles and expectations, rather than offering learners an opportunity to reconsider or challenge them. The visual content aligns with the lesson's communicative objectives; however, it presents cultural norms in a way that appears fixed and unproblematic, offering no cues for alternative perspectives or reflective engagement.

Across the platform, cultural instruction appears predominantly framed through a single lens, one that closely aligns with dominant values from an American English-speaking context, thus presenting a narrow and often unexamined cultural perspective. Visual and textual elements tend to position cultural content as static knowledge to be received, offering few opportunities for learners to grapple with it in a critical manner or to draw connections with their own lived experiences. Even in lessons where culture is not directly addressed, the selection of everyday themes—such as shopping, independence, driving, or blogging—implicitly promotes particular worldviews and lifestyle norms, framing them as universally relevant rather than culturally specific. While these topics may seem neutral, they subtly convey cultural assumptions that shape how learners come to understand social roles, behaviors, and language use. The material rarely invites alternative interpretations or connections to diverse cultural contexts, limiting opportunities for learners to engage in intercultural reflection or dialogue. Overall, the platform's communicative strategies reinforce a reduced and uniform view of reality, leaving little room for learners to question, reinterpret or to see themselves represented in the cultural depictions therein.

Normative Cultural Frames

The instructional material consistently conveys normative values by framing everyday themes as universally applicable. However, these themes often encode implicit assumptions grounded in specific sociocultural ideals. A clear illustration of this appears in Unit 12 (Figure 5), where the concept of independence is introduced through a split visual-textual design. On the left, a checklist titled Grammar in context: Independence prompts learners to evaluate their ability to complete tasks like leaving home, keeping appointments, and finding part-time employment—practices that are positioned as milestones of maturity and personal growth. The checklist's binary format ("Yes/No") further shapes the learner's role, encouraging alignment with a fixed model of autonomy rather than allowing for diverse interpretations of independence. On the right side of the screen, a photograph shows a smiling young person behind the wheel of a car, accompanied by a passenger. The layout clearly separates text and image into distinct visual zones, establishing a parallel structure that reinforces the visual message while maintaining functional clarity. This image serves to visualize independence through the lens of individual mobility and self-direction, promoting a specific understanding of freedom directly associated with driving a car.

Figure 5

Lesson A Grammar in context (unit 12)

VIEWPOINT 2 ONLINE COURSE

Unit 12 Lesson A Being Independent

1 Grammar in context: Independence

(A) In what ways should young adults be independent, do you think? Should they do these things by the age of 17 or 18? Select **Yes** or **No**. There are no correct or incorrect answers.

	Yes	No
leave home to live alone	☐	☐
make their own meals	☐	☐
get to and from appointments	☐	☐
be responsible for their own health care	☐	☐
do their own laundry	☐	☐
earn their own money	☐	☐
pay rent to live at home	☐	☐
have a part-time job	☐	☐

About you

What things did you (or do you) have to do by yourself at the age of 17 or 18? Make a list.



Note. Taken from the LicBi platform.

However, in contexts shaped by different histories and cultural values, the depiction of independence through driving may not carry the same significance for all learners. The image in Unit 12 draws on specific cultural symbols—such as car ownership and individual mobility—to convey autonomy in a way that reflects Western ideals, yet these symbols may not resonate universally. In many societies, the concept of independence is shaped by alternative milestones, including caregiving responsibilities, community engagement, or financial contributions, indicating that the visual narrative overlooks culturally diverse understandings of self-reliance. While the accompanying checklist task prompts reflection on various practical responsibilities, such as managing finances or doing laundry, the image offers no visual cues to reinforce these broader dimensions, resulting in a misalignment between visual and textual content. The learner is placed in the role of a passive viewer, observing a scenario that may feel disconnected from their lived experiences, which may reduce the potential for meaningful engagement with the theme. Although the checklist structure effectively encourages active learner participation through direct prompts, the image's cultural and emotional ambiguity limits its ability to foster critical reflection or intercultural comparison, weakening its pedagogical impact.

Gender Representations

The material not only conveys normative values in everyday contexts but also reinforces gender stereotypes through the framing of behaviors and social roles embedded in task design. Figure 6 exemplifies how skills-based activities can contribute to

the normalization of power dynamics and cultural assumptions, particularly around gendered behavior. Beyond informing learners through statistical reporting, the material constructs expectations by embedding implicit value judgments into its presentation of data. The focal task is a reading and analysis activity titled *Writing: Twice as Likely*, which features a brief report on teenage driving habits. This report draws on data from the American Automobile Association and the Centers for Disease Control, whose logos are placed on the right-hand side of the layout, a design choice that visually elevates the credibility of the text and structures the reader's perception of its legitimacy. The report outlines increased risks associated with teen drivers, including accident frequency, mobile phone distractions, and heightened risk-taking in peer settings, producing a generalized portrayal of youth behavior shaped by statistical abstraction. Positioned below, a true/false comprehension task prompts learners to extract factual information from the report, while a nearby speech bubble encourages subjective engagement by inviting learners to articulate their personal views on the issue, thus shaping a dual mode of participation through both recall and opinion.

Figure 6
Writing (unit 12)

Unit 12

Writing Twice as likely

A

Look at a model

Read the report. Then read the statements and select *True* or *False*.

Per mile driven, teen drivers have four times as many crashes as adult drivers.* According to research by the AAA (American Automobile Association) Foundation for Traffic Safety, teen girls are . . .

- twice as likely as teen boys to use a cell phone while driving.
- nearly 50 percent more likely than males to reach for an object in the vehicle.
- nearly 25 percent more likely to eat or drink while driving.

The same report shows that teen boys . . .

- are roughly twice as likely as girls to turn around in their seats while driving.
- communicate with people outside of the vehicle twice as often.

* Centers for Disease Control

About you

How many of your guesses were correct?

Culture note

The Centers for Disease Control and Prevention (CDC) is headquartered near Atlanta, Georgia. In addition to monitoring diseases, the CDC also conducts studies on health and safety.

		True	False
1	Teenage drivers have more crashes than adults.	☐	☐
2	Girls use phones more than boys while driving.	☐	☐
3	Girls are less likely to reach for an object in the vehicle while driving.	☐	☐
4	Girls are less likely to eat while driving than boys.	☐	☐
5	Boys are less likely than girls to turn around while driving.	☐	☐
6	Boys talk to people outside the vehicle more than girls.	☐	☐

Note. Taken from the LicBi platform.

Although the task may initially appear straightforward, the way information is framed contributes to the reinforcement of gendered representations. The report adopts a generalized tone and omits contextual nuance, thereby constructing male and female teenagers as inherently distinct in their driving behaviors, which reflects stereotypical categorizations. Even in the absence of imagery, the textual portrayal of risk linked to gender shapes the learner's perception of adolescent drivers, fostering implicit associations between gender identity and driving competence. While the task invites learners to engage through personal opinion and critical evaluation, it lacks instructional support that would enable learners to question the assumptions within the statistical data, limiting opportunities for deeper inquiry. The layout further reinforces these imbalances: the report is visually separated from the learner's response section, creating a clear distinction in informational hierarchy that privileges the report as objective and renders student input as subjective or secondary. In this way, the activity risks perpetuating dominant narratives rather than challenging them, reducing the potential for learners to critically engage with gender norms and their influence on public discourse.

Conclusions

The instructional design of the LicBi platform integrates a multiplicity of semiotic resources and communicative modes for teaching and learning. While the platform's multimodal structure offers a visually coherent and organized presentation of content, it is not without its shortcomings. The consistent use of layout and design elements, such as framing and salience, provides clarity and helps guide learners' reading paths. However, this consistency can lead to inflexibility in terms of engagement and expression, which may hinder deeper interaction with the material. Despite the organized visual elements, the platform's pedagogical approach falls short of achieving true depth and accuracy in the representation of concepts, and fails in creating opportunities for students to see themselves or their own knowledge or experiences therein.

A critical observation is that while the LicBi platform utilizes a structured, grid-based approach to organize lessons, it does not always succeed in conveying the intended meanings of the visual and textual elements. For instance, the pairing of images with textual labels often falls short of clearly expressing the underlying concepts, such as "independence" or "love is blind." These images, although visually engaging, do not fully unpack the complex, layered meanings behind the phrases they represent.

Moreover, the platform's focus on visual clarity and coherence sometimes oversimplifies the learning goals. The outcome sections at the end of each unit provide a summary of activities rather than clearly articulated measurable learning objectives. This weakens the platform's ability to communicate what students are expected to achieve and how they can track their progress. The inclusion of links to additional resources, such as workbooks and grammar exercises is a positive asset, but without clear, explicit learning outcomes, these resources lack sufficient guidance for students to understand the broader objectives of the course.

Additionally, the platform's design could benefit from a more flexible and dynamic approach to instructional delivery. While the repetitive structure across units provides a sense of uniformity, it also risks making the learning experience monotonous.

The rigid format does not allow for diverse forms of interaction, participation, and collaboration that are essential for engaging students from varying backgrounds and with diversified learning styles. The failure to incorporate more varied pedagogical strategies could limit the platform's appeal and effectiveness for a wide range of learners.

The cultural and emotional dimensions of communication within instructional design play a pivotal role in shaping learners' perceptions and understanding of social norms, behaviors, and values. As previously discussed, the LicBi platform's instructional design often reflects a narrow, culturally specific worldview, predominantly influenced by dominant Western norms and ideologies. Through a multimodal lens, as outlined in the analysis, we observe how visual and textual elements work in tandem to convey cultural messages, sometimes implicitly embedding stereotypes, gender roles, and normative cultural assumptions. This alignment between instructional material and cultural values requires careful consideration, as it can either enrich or limit the learning experience, depending on how inclusive and reflective the content is of diverse cultural perspectives.

Similar to the previously identified limitations in the platform's design, the materials analyzed here reinforce established cultural frames—such as the framing of independence through driving or the depiction of gendered behavior—without inviting students to critically engage with these norms. By offering only one-sided portrayals, the content restricts learners from questioning or exploring alternative social roles, especially in non-Western contexts. In this sense, the instructional materials fail to acknowledge the dynamic and diverse ways in which cultural experiences shape identity, knowledge, and social participation.

Additionally, the platform's use of gendered representations, as seen in scenarios such as the portrayal of women in retail settings or the stereotypical depiction of teenage driving habits, highlights how instructional materials can perpetuate harmful stereotypes. Just as the rigid structure of the LicBi platform may constrain deeper engagement with the content, the gendered portrayals in the materials limit the opportunity for students to explore gender roles critically. By not addressing the inherent biases within these portrayals, the materials unintentionally reinforce the status quo, discouraging reflection on how gender norms influence not only personal identities but also societal interactions.

The absence of contextual explanations, or opportunities for critical engagement, means that students may passively absorb these portrayals rather than engage with them actively and reflectively. This lack of interaction with the content limits the platform's ability to support the development of critical thinking skills and a broader understanding of diverse cultural contexts.

To conclude, our analysis of the LicBi platform highlights the importance of evaluating instructional materials from a multimodal perspective to fully uncover the affordances and limitations embedded within them. The predominant limitations we identified underscore the urgent need for educators and materials developers to consider not only the overt content but also the implicit messages, cultural assumptions, and ideologies present in learning materials. In an era where language teaching must equip students with both linguistic and intercultural competencies, the design of instructional materials must evolve. By doing so, we can ensure that learners are not just passive receivers of knowledge, but active participants in their

learning process—engaged, motivated, and critically aware of the cultural narratives shaping their education.

Notes:

¹ Bilingual Education Teaching credential programs in Colombia usually focus on the pedagogical aspects of English teaching and have a considerable emphasis on linguistic, pedagogical, and theoretical components of language teaching.

² A set of exercises where students can practice the linguistic content of the three previous units.

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Authorship contribution:

Wilder Yesid Escobar-Alméciga was responsible for the conceptualization, development, and methodological design of the study. His work ensured a clear research framework and guided the overall structure of the investigation. Additionally, he contributed to data analysis, providing critical insights into the interpretation of findings. He also played a key role in the review and editing of the manuscript, ensuring coherence and academic rigor.

Claudia Ortiz-Yee played a key role in the data collection and execution of the study, ensuring the successful implementation of the research process. She also contributed to data curation, organizing and managing the collected information for further analysis. Furthermore, she was responsible for the writing of the original draft, structuring the findings and initial discussions, as well as organizing and structuring visual elements.

Daniel Hernando Rojas-Rodríguez contributed to the study by conducting data analysis, helping to interpret the collected information and extract meaningful insights. Additionally, he was responsible for the review of research formats, ensuring that the study adhered to methodological standards and maintained consistency in data presentation.

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Bridging Bilingual Teacher Preparation to Professional Development in Science and Engineering Education

Conectando la formación bilingüe con el desarrollo profesional en ciencia e ingeniería

Conectando a formação bilíngue ao desenvolvimento profissional em ciência e engenharia

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Abstract

This paper investigates the transformative potential of a collaborative group of bilingual preservice and inservice teachers who co-designed and implemented a new science and engineering summer program for elementary and middle grades students. By centering culturally and linguistically sustaining pedagogies within professional development, we explore how foundational insights from preservice teacher preparation—specifically in science, engineering, and translanguaging—can meaningfully inform and strengthen inservice teaching strategies throughout the academic year. The study highlights the value of engaging bilingual educators in iterative cycles of reflective practice, emphasizing how collaborative professional learning communities can foster sustainable and equitable teaching practices. We examine how teacher teams utilized students' cultural and linguistic assets as a cornerstone of curriculum design and instructional delivery, bridging theory with practical classroom application. Drawing on both empirical classroom examples and relevant theoretical frameworks, this research outlines a professional development model that is responsive, asset-based, and teacher-driven. The model builds on the knowledge and enthusiasm cultivated during preservice training while addressing the dynamic, real-world challenges encountered by educators in increasingly diverse educational settings. Ultimately, our goal is to offer actionable strategies for bridging the persistent gap between preservice preparation and inservice professional growth, thereby supporting more effective, culturally relevant science and engineering instruction, and promoting teacher leadership and collaboration.

Resumen

Este artículo investiga el potencial transformador de un grupo colaborativo de docentes bilingües en formación inicial y en servicio que codiseñaron e implementaron un nuevo programa de verano de ciencia e ingeniería para estudiantes de primaria y secundaria. Al centrar las pedagogías cultural y lingüísticamente sostenibles dentro del desarrollo profesional, exploramos cómo los conocimientos adquiridos en la preparación docente inicial —específicamente en ciencia, ingeniería y translenguaje— pueden informar y fortalecer significativamente las estrategias de enseñanza en servicio a lo largo del año escolar. El estudio resalta el valor de involucrar a educadores bilingües en ciclos iterativos de práctica reflexiva, enfatizando cómo las comunidades de aprendizaje profesional colaborativas pueden fomentar prácticas de enseñanza sostenibles y equitativas. Examinamos cómo los equipos docentes utilizaron los recursos culturales y lingüísticos de los estudiantes como base para el diseño curricular y la entrega instruccional, vinculando la teoría con la aplicación práctica en el aula. A partir de ejemplos empíricos y marcos teóricos relevantes, esta investigación presenta un modelo de desarrollo profesional receptivo, basado en activos y dirigido por los docentes. El modelo se construye sobre el conocimiento y entusiasmo cultivado durante la formación inicial, abordando al mismo tiempo los desafíos dinámicos del contexto educativo actual. Nuestro objetivo es ofrecer estrategias prácticas para cerrar la brecha entre la formación docente inicial y el crecimiento profesional continuo.

Keywords:

preservice, inservice, professional development, culturally sustaining, science, engineering, education.

Palabras clave:

formación inicial, en servicio, desarrollo profesional, culturalmente sostenible, ciencia, ingeniería, educación.

Resumo

Este artigo investiga o potencial transformador de um grupo colaborativo de professores bilíngues em formação inicial e em exercício que cocriaram e implementaram um novo programa de verão de ciência e engenharia para alunos do ensino fundamental e médio. Ao centrar as pedagogias cultural e linguisticamente sustentáveis no desenvolvimento profissional, exploramos como os conhecimentos adquiridos na formação inicial de professores —especificamente em ciência, engenharia e translanguaging— podem informar e fortalecer significativamente as estratégias de ensino em exercício durante o ano letivo. O estudo destaca o valor de envolver educadores bilíngues em ciclos iterativos de prática reflexiva, enfatizando como comunidades colaborativas de aprendizagem profissional podem promover práticas pedagógicas sustentáveis e equitativas. Examinamos como as equipes docentes utilizaram os recursos culturais e linguísticos dos alunos como base para o planejamento curricular e a prática pedagógica, conectando teoria e aplicação prática em sala de aula. A partir de exemplos empíricos e de referenciais teóricos relevantes, esta pesquisa apresenta um modelo de desenvolvimento profissional receptivo, centrado em ativos e orientado pelos próprios professores. O modelo se baseia no conhecimento e entusiasmo cultivado durante a formação inicial, ao mesmo tempo que aborda os desafios dinâmicos enfrentados por educadores em contextos diversos. Nosso objetivo é oferecer estratégias práticas para superar a lacuna entre a formação docente inicial e o desenvolvimento profissional contínuo.

Palavras-chave:

formação inicial,
em exercício,
desenvolvimento
profissional,
culturalmente
sustentável, ciência,
engenharia, educação.

Introduction

Bilingualism has established a significant presence in numerous teacher preparation programs across the United States, reflecting a growing recognition of the nation's linguistic diversity and the need for educators equipped to serve multilingual learners. These programs often offer specialized coursework, endorsements, or even full degree programs in bilingual education, focusing on areas such as dual-language instruction, second language acquisition theories, culturally responsive pedagogy, and assessment of bilingual students. This established presence ensures that many graduating teachers enter the profession with foundational knowledge and skills to effectively support bilingual students and create inclusive classrooms that value linguistic diversity.

However, in states like Georgia, where this study takes place, the integration of bilingualism into teacher preparation programs is still in a developmental phase. This affects key curricular areas, particularly preservice teacher training and inservice professional development. Consequently, many teachers in Georgia may lack the specific training and resources needed to effectively implement bilingual or multilingual approaches in their classrooms, as the teacher training programs do not require them to develop these skills. This gap can hinder the creation of truly multilingual learning environments that leverage students' full linguistic repertoires and support both content learning and language development. Addressing this disparity requires focused efforts on developing and implementing robust bilingual education coursework within teacher preparation programs and providing ongoing professional development opportunities for practicing teachers.

In this study, supported by the National Science Foundation (Award #2121351), we also focus on training preservice teachers to teach science and engineering in elementary and middle grades education, following the Science Georgia Standards of Excellence, which are adapted from the Next Generation Science Standards (NGSS, 2012). Preservice teacher training in areas like science—often relegated to second-place status—or emergent areas like engineering education, which is still developing in many Georgia school districts, is essential to improving science and engineering literacy in the classroom. This study was implemented in a summer program where preservice teachers implemented lesson plans under the guidance of university faculty and three inservice teachers. Then, after participating in the summer program, preservice teachers were asked to implement similar lesson plans during the school year in their schools of placement.

Theoretical Framework

In this paper, we describe how translanguaging is intertwined with the science and engineering methodology to teach a group of elementary and middle grades students in a summer program. On the one hand, our approach was grounded in translanguaging, a culturally and linguistically sustaining pedagogy that has been defined as a tool that allows emergent bilingual students to use all their available semiotic resources to make meaning (García & Wei, 2014). Buxton et al. (2021) emphasized that it empowers students to fully utilize their linguistic repertoire, embracing the richness and diversity

of their home languages rather than suppressing them to conform to dominant social and political norms. This approach fosters inclusivity, validates their cultural identities, and challenges systems that ignore, marginalize, or devalue non-standard language practices —especially in states that are newly engaging with multilingualism in the classroom (Cardozo-Gaibisso et al., 2024). By creating a learning environment that respects and integrates these linguistic assets, students can engage more authentically and meaningfully, enhancing their overall educational experience.

On the other hand, the summer program's content was guided by science and engineering methodologies, aligning with the Science Georgia Standards of Excellence. The science methodology follows a structured five-step process: engage, explore, explain, elaborate, and evaluate (Bybee, 2015), ensuring a comprehensive approach to understanding scientific concepts. In contrast, the engineering methodology builds on these steps with additional processes that address its unique focus on problem solving and innovation. The steps are: **ask**, where students familiarize themselves with the context and the problem; **research**, where students use resources to find out how others have approached the problem; **imagine and plan**, where students brainstorm ideas, discuss the benefits and disadvantages of possible solutions, and begin planning how to build a prototype; **create and explain**, where students build the prototype and the teacher addresses the concepts that will be used to explain the prototype's performance; **test**, where students use the prototype and gather data about how it solves the problem or how it can be improved; **improve**, where students make changes to the prototype; and **communicate results**, where students use science concepts to prepare materials that explain their data and the prototype's performance. This iterative process emphasizes creativity and practical application. Together, these frameworks provided a robust set of pedagogical tools for fostering critical thinking and hands-on learning in the program.

Methodology

The purpose of this exploratory research is to understand how preservice teachers use translanguaging to teach science and engineering in a flexible environment such as a summer program with the guidance of inservice teachers and university faculty. All ethical considerations were taken into account in this IRB-approved study, and informed consent was obtained from the participants. In terms of participants, preservice teachers participating in this summer program are entering their junior and senior years after they conclude their participation in the summer program. In the following, we will focus on the preservice teachers entering their senior year as seniors experience more intensive work in the classroom that includes implementation of lesson plans with the guidance of a mentor teacher in the school of placement. There was a total of 11 preservice teachers entering the senior year in the fall semester, three of whom were in the elementary and eight of whom in the middle grades programs. These preservice teachers collaborated with peers to develop, implement, and assess lesson plans and classroom activities under the supervision of mentor teachers. While they had prior experience in general lesson planning, they were still developing their skills in planning for science, engineering, and translanguaging. Three of the rising senior preservice teachers were fully bilingual in English and Spanish, while the others reported experiences such as taking Spanish classes or practicing

conversational Spanish in countries where the language is spoken. The in-service teachers participating in the summer program as mentor teachers were experienced educators, each with more than 10 years of teaching in public schools and working with emergent bilingual students. These in-service teachers served as mentors and supervisors during the summer but did not fulfill that role during the fall semester.

The data used for this paper were collected at different moments: the initial preservice teacher application to the summer program, the development and implementation of the science and engineering activities, the exit survey in the summer, and six online meetings and classroom observations during the school year. We use thematic analysis as a qualitative approach to study the data from the summer and fall semesters by systematically coding the sources, identifying recurring patterns and themes, and interpreting how these themes reflect the experiences, perceptions, and growth of the preservice teachers. This process allows us to explore their initial expectations, their engagement and learning during the program, and their reflections on its impact, providing a comprehensive understanding of the program's effectiveness and areas for improvement. At the same time, we examine how mentor teachers in the fall semester supported preservice teachers in developing and implementing science and engineering activities, and how they used translanguaging in the process.

Context

The Science Methods courses for elementary and middle grades preservice teachers, along with the Summer Scholars STEM Institute, were hosted at the University of North Georgia (UNG) Gainesville campus. These programs aimed to provide preservice teachers with hands-on experience in designing and implementing STEM lessons, while offering rising 4th–8th grade students an engaging summer learning experience in science and engineering.

Preservice Teacher Recruitment and Course Structure

Preservice teachers were recruited during the February –March period through targeted outreach to education students interested in science instruction. The program officially commenced in the third week of May and spanned 12 instructional days. During this period, preservice teachers attended the Science Methods course from 9:00 a.m. to 12:30 p.m., Monday to Friday, under the guidance of three university faculty members and two inservice teachers. The course was designed to enhance their pedagogical skills in STEM education and translanguaging, culminating in the development of one science lesson plan and one engineering lesson plan. The structure of the course allowed for collaborative lesson planning, peer review, and iterative refinement to ensure high-quality, student-centered instructional materials.

Summer Scholars STEM Institute

Following the completion of their lesson plans, preservice teachers had the opportunity to implement their instructional designs during the Summer Scholars STEM Institute for 15 days. This program welcomed 82 students who had just concluded their school

year and were preparing to transition to their next grade level in August. These students, designated as rising 4th–8th graders, participated in the Institute from 9:00 a.m. to 3:00 p.m., Monday to Thursday. Each day at the Summer Scholars STEM Institute was carefully structured to provide a balanced and immersive STEM experience. During the morning session, students engaged in hands-on science activities designed by the preservice teachers. These activities focused on inquiry-based learning, fostering critical thinking, and applying scientific concepts through experiments and interactive discussions. After the lunch break, students transitioned to engineering-focused activities, which emphasized problem-solving, design thinking, and the application of engineering principles. They worked on team-based projects, exploring real-world engineering challenges and constructing prototypes. Recess, the final hour of the day, provided students with a recreational break, where they had access to outdoor play areas and the campus gymnasium.

Working in Schools during the School Year

During their senior year, preservice teachers collaborated with mentor teachers in regular classrooms throughout the fall and spring semesters. These placements spanned multiple school districts across the five university campuses. In this study, preservice teachers were assigned to four schools within two districts, where multilingual student populations were significantly represented. However, the extent to which multiple languages were integrated into instruction varied across schools. Their experiences were shaped by several key factors, including the school's instructional culture, the amount of time allocated to science education, and the attitudes of inservice teachers and principals toward the use of different languages in the classroom. The following sections will explore these aspects in greater detail.

Results

First, we describe the findings related to preservice teachers' work during the summer, followed by their implementation of activities during the school year. It is important to note that during the summer portion, preservice teachers implemented their activities with the support of university faculty and inservice teachers, who were flexible in how the activities were carried out in the classroom—particularly regarding the time needed to complete them. Implementing activities during the school year, on the other hand, proved more difficult due to the lack of scheduling flexibility, as preservice teachers had to adapt to the limited time allocated to science, which was significantly reduced compared to subjects such as language arts or math.

Translanguaging, Science and Engineering Instruction (Summer)

The sources reveal that creating a welcoming and effective learning environment for multilingual learners involves several key strategies. Teachers in the program emphasized the importance of allowing students to use their native languages in the classroom. This included permitting students to write and speak in Spanish, providing

translations, and making resources available in multiple languages. For example, one preservice teacher noted:

"It was really cool to use Spanish because I know that in my [experience], it's not that it was discouraged [...] but students didn't get translated worksheets, and they didn't have the closed captions feature in presentations [...] I just feel like it made the kids who do prefer to speak it a lot more welcomed in the classroom [...] and that's honestly something I would like to implement within my classroom."

This preservice teacher also shared that she created hard copies of a Kahoot quiz with Spanish translations for students who needed them. Another teacher noted that students were more likely to express themselves fully in writing when allowed to use Spanish. Additionally, teachers learned to incorporate technology to support multilingual learners, such as using live Spanish subtitles on presentations and videos. They also used visual aids and *realia* to clarify concepts. This approach involved being flexible and adaptable—for example, printing out PowerPoint slides for students with vision challenges.

An elementary preservice teacher explained:

"So, I definitely know how to better differentiate for students who speak multiple languages and who come from different cultures. As for me, we were provided with a lot of resources on that, and I found out about a lot of apps that I can use to integrate into the classroom—like how to put captions in another language on my presentations and such."

Furthermore, teachers found that understanding the reasons behind student behavioral was critical for effective instruction of multilingual learners. They learned that behavior issues often stemmed from a lack of comprehension of the material or instructions—not from a lack of effort. This realization led teachers to actively seek out ways to meet the needs of students struggling with the language barrier instead of assuming a lack of attention or interest. These strategies included translating instructions, providing additional support, and creating an emotionally safe environment. Teachers also understood the importance of valuing students' cultural backgrounds and incorporating their interests into lessons. During an exit interview, a preservice teacher shared that collaborating with inservice teachers helped her to support students by "tak[ing] advantage of a second language" during classroom instruction. They did this by getting to know their students on a personal level by asking them about their families, favorite foods, and what they like to do for fun. They also incorporated these things into lesson planning. They recognized that understanding each student's unique cultural and linguistic background was an important part of creating a supportive learning environment.

The program provided teachers with valuable experience in implementing science lessons. Many teachers found the 5E model (Engage, Explore, Explain, Elaborate, Evaluate) to be a useful framework. They learned the importance of using hands-on activities and experiments to engage students and deepen their understanding of scientific concepts. For example, one group of teachers facilitated a sound and vibration activity in which students used a wave generator to measure the frequency of sound waves. Another group had students build their own cardboard cities to explore the principles of magnetism, using a paperclip car and a magnet placed beneath the model city to move it. These hands-on approaches helped

students make connections between abstract scientific principles and real-world applications.

The teachers also recognized that students needed to use scientific terms to explain their thinking and understanding. In addition, they realized the importance of modeling scientific inquiry and encouraging students to ask questions and investigate further.

Teachers also found the need to be flexible and adaptable, often adjusting their lesson plans based on the resources available and student needs. They learned to use a variety of resources such as the National Science Teacher Association (NSTA) resources, and to collaborate with their colleagues to prepare engaging and effective science lessons. They incorporated the use of technology, like having translated subtitles for presentations and videos. Teachers also found that connecting lessons to students' interests and cultures was important for creating relevant and engaging learning opportunities. For example, one group incorporated a genetics activity using dragons to model heredity. Teachers learned to create a supportive classroom environment where students felt comfortable asking questions—even if that meant having to explain something multiple times.

One middle grades preservice teacher noted: "We noticed that most of our students needed to work on just expressing. They know, they know the topic, the material, but it's just—write it down, express it."

This insight shaped how they designed their lesson plans and activities, aiming to provide opportunities for students to express themselves in meaningful ways.

The sources also demonstrate that the teachers gained significant experience in implementing engineering lessons. They learned to follow the engineering design process, which often involved students working together to solve problems using creativity and critical thinking. One group of teachers had students work on a project that involved designing a cardboard city and using magnets to move toy cars through it. Many teachers believed that these types of hands-on, student-centered projects helped develop students' problem-solving skills and encouraged them to be more creative. The engineering lessons also provided opportunities to integrate science concepts and show how they can be applied in real-world scenarios. Teachers used activities that helped students understand complex ideas—such as heredity—in fun and engaging ways.

Teachers recognized that engineering lessons should be structured, yet allow for student-led exploration and discovery. They incorporated the use of models and demonstrations, as well as real-world applications. While most found the engineering design process useful, some felt that the steps were too numerous for the time allotted. Similar to their approach to science, teachers understood that it was important to connect engineering lessons to students' interests. They learned to use a variety of resources and to adjust their lessons as needed. Teachers also recognized that implementing engineering lessons required flexibility and thoughtful planning. They saw the need to design activities that allowed students to work at their own pace and collaborate in different group configurations.

Preservice Teachers' Work During the School Year

In this second context, as mentioned above, preservice teachers experienced a more rigid environment when trying to implement science and engineering activities using

translanguaging. Inservice teachers who served as mentor teachers during the school year were not especially familiar with either the translanguaging or the engineering methodology. With science, many were familiar with the methodology but did not use all the five steps when implementing the activities. This impacted how preservice teachers used the skills learned during the summer.

The use of multiple languages during the school day varied across classrooms and schools. In three schools, principals actively encouraged multilingual instruction for certain students, as their student populations were proficient in multiple languages. From these three schools, one had a long-established culture in which teachers consistently integrated both English and Spanish into instruction across all content areas. In the second school, an emerging bilingual approach was being developed, with students placed in different classrooms based on their language use and proficiency. However, the overarching goal in this school was for students to transition to English-only instruction. In the first and second schools, mentor teachers provided explicit support to preservice teachers in utilizing different languages for instruction, offering guidance on strategies and best practices. At the third school, preservice teachers independently implemented translanguaging, as the mentor teacher did not provide specific guidance on its use. However, the mentor teacher did not restrict the practice of translanguaging by either the students or the preservice teachers within the classroom.

For the rest of the schools, the use of translanguaging was reduced, discouraged, and, in some cases, not allowed during instruction time. This limited how preservice teachers developed their activities, connected with students, and fostered a welcoming learning environment in the classroom. Preservice teachers noted that inservice or mentor teachers often did not know how to use multiple languages during instruction; and in other cases, the principal discouraged it.

Preservice teachers had more positive experiences planning and implementing science activities when following the structured science methodology used in the summer program, compared to using translanguaging and implementing engineering activities. Inservice teachers, who served as mentors, were already familiar with the five-step approach and, in most cases, allowed preservice teachers to implement most of the steps. Throughout these experiences, preservice teachers received mentorship and supervision during both the planning and execution of lessons, which enhanced their learning process. This support was especially valuable in classrooms where translanguaging was incorporated, as it allowed for more inclusive and dynamic instruction that engaged multilingual learners more effectively.

One of the biggest challenges preservice teachers faced was the limited time allocated for science instruction compared to subjects like language arts and math. The amount of time available for science varied across schools, with some scheduling science only once a week—typically on Fridays— while others operated on a rotating schedule every other week. In one case, a preservice teacher struggled because the school's instructional culture did not align with the 5E methodology. Instead of engaging in hands-on learning, students were restricted to reading text passages about science topics, missing the opportunity to explore concepts through experimentation and inquiry-based activities.

Among the three methodologies, engineering was the most challenging to implement during the school year. Preservice teachers faced several obstacles in planning and

executing engineering activities, with the most common issue being the significant amount of instructional time required. Engineering projects often involve an iterative process where students design, build, and test a prototype, then refine their designs to improve performance. This process demands time not only for constructing and testing but also for making connections between the prototype's performance and underlying science concepts. However, many schools allocate limited time for hands-on learning, making it difficult to fully engage students in the engineering design cycle. Elementary and middle school students need sufficient time to gather materials, learn how to use tools, and analyze evidence to explain how their creations addressed a problem and the challenges they encountered throughout the process.

Another major challenge was the lack of familiarity with engineering instruction among inservice teachers. Since many were not familiar with the engineering design process, they were unable to provide preservice teachers with meaningful feedback during lesson planning and implementation. Without experienced guidance, preservice teachers often struggled to structure activities effectively or anticipate potential student difficulties. As a result, engineering lessons were sometimes incomplete or lacked the depth necessary for students to fully grasp the problem-solving aspects of engineering.

Conclusion

The findings from this study highlight the significant impact of the summer program on preservice teachers' ability to design and implement STEM instruction, particularly in science and engineering. During the summer, preservice teachers benefited from flexible scheduling, mentorship from university faculty and inservice teachers, and the opportunity to engage in translanguaging practices to support multilingual learners. This environment allowed them to explore student-centered methodologies, including the 5E science model and the engineering design process, in ways that fostered creativity, critical thinking, and deeper student engagement. However, when transitioning to the school year, preservice teachers encountered various constraints, including limited instructional time for science and engineering, a lack of familiarity with translanguaging among inservice teachers, and inconsistent support for hands-on learning across different schools. These barriers often restricted their ability to fully implement the strategies they had practiced over the summer.

Despite these challenges, the experiences gained through the summer program provided preservice teachers with a strong foundation in STEM education and translanguaging instruction. The structured science methodology was the most successfully implemented during the school year, as it was already familiar to many inservice teachers. Nonetheless, implementation was still constrained by limited time for science instruction and, in some districts, the use of scripted curricula for inservice teachers. limited time for science instruction and, depending on the school district, the scripted curriculum for inservice teachers. Engineering instruction remained the most difficult to integrate due to time constraints and a lack of mentor support. Engineering requires more time, as students' prototypes oftentimes need to be improved and retested. This iterative process poses additional demands in terms of time and materials.

Similarly, translanguaging practices varied widely, with some schools embracing multilingual instruction while others discouraged or outright prohibited it. These findings underscore the need for continued professional development for inservice teachers, particularly in engineering education and multilingual instructional strategies, to create more supportive environments for both preservice teachers and their students. Strengthening these areas can enhance the implementation of STEM education and foster more inclusive learning experiences for diverse student populations.

Implications/Future Steps

Future steps will focus on expanding professional development opportunities for inservice teachers to enhance their familiarity with the engineering design process and translanguaging strategies, ensuring better support for preservice teachers during the school year. Schools should consider allocating more instructional time for STEM subjects, particularly engineering, to allow for hands-on, inquiry-based learning that fosters critical thinking and problem-solving skills. Additionally, fostering a school-wide or district-wide culture that values multilingual instruction contribute to create more inclusive learning environments for diverse student populations. We also plan to explore strategies for integrating engineering education into existing curricula without compromising time for other subjects and examine the long-term impact of translanguaging on student engagement and academic performance. In addition, we aim to connect science and engineering after-school programs with inservice teachers, preservice teachers, and university faculty to strengthen collaborative partnerships. These efforts can enhance university–K–8 school relationships, bridge gaps in instructional practices, and provide sustained mentorship for preservice teachers as they transition into full-time teaching roles.

Notes:

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Max Vazquez Dominguez: conceptualization, data curation, research, methodology design, administration, supervision, validation, visualization, writing of the draft and review of the manuscript.

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EFL Teacher Education: Exploring Professional Growth through the Integration of Padlet and Reflection

Formación docente en EFL: explorando el crecimiento profesional a través de la integración de Padlet y la reflexión

Formação de professores de EFL: explorando o crescimento profissional por meio da integração do Padlet e da reflexão

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Abstract

This paper explores the impact of integrating the digital platform Padlet and reflective practices in a Master's in TESOL course on student teachers' professional growth. Conducted with 14 students from a South Vietnamese university, the study utilized reflective journal entries, evolving teaching philosophy statements, an end-of-course survey, and individual structured interviews. Results revealed positive correlations between technological pedagogical content knowledge (TPACK), as perceived by student teachers, and the course structure and content. Two overarching themes emerged around Padlet integration. The first, enhanced learning experiences, emphasized inclusive, motivational, and real-world-connected practices. The second, technology integration, highlighted advantages and disadvantages of the *Padlet* platform, yet promoted a collaborative spirit within the community of student teachers. Reflectivity played a pivotal role, yielding themes of innovation and student-centered teaching, challenges and strategies for language instruction, and the construction of teacher identity. These themes collectively underscored the cultivation of TPACK, teacher effectiveness, and lifelong learning commitment. Pedagogical implications for integrating technology (e.g., *Padlet*) and reflection in teacher preparation courses to enhance transformative potential in English as a Foreign Language (EFL) education are discussed, alongside limitations and directions for future research to explore the interplay of TPACK, instructional efficacy, and reflection in education's evolving context.

Keywords:

Padlet, TPACK, reflectivity, student teachers, teacher identity.

Resumen

Este artículo examina el impacto de integrar la plataforma digital Padlet y las prácticas reflexivas en un curso de Maestría en TESOL sobre el crecimiento profesional de futuros docentes. El estudio se realizó con 14 estudiantes de una universidad del sur de Vietnam y empleó diarios reflexivos, declaraciones evolutivas de filosofía docente, una encuesta final del curso y entrevistas estructuradas. Los resultados revelaron correlaciones positivas entre el conocimiento tecnológico pedagógico del contenido (TPACK), según lo percibido por los estudiantes, y la estructura y contenido del curso. Se identificaron dos temas principales en torno a la integración de Padlet. El primero, experiencias de aprendizaje mejoradas, resaltó prácticas inclusivas, motivadoras y conectadas con la vida real. El segundo, integración tecnológica, abordó tanto beneficios como limitaciones de la plataforma, pero fomentó una comunidad colaborativa entre los docentes en formación. La reflexión tuvo un papel central, generando temas como innovación, enseñanza centrada en el estudiante, desafíos en la instrucción del idioma y construcción de la identidad docente. Estos hallazgos destacan el desarrollo del TPACK, la efectividad docente y el compromiso con el aprendizaje permanente. Se discuten implicaciones pedagógicas sobre el uso de tecnologías como Padlet y prácticas reflexivas en la formación docente para potenciar una educación transformadora en EFL, además de proponer futuras líneas de investigación sobre la interacción entre TPACK, eficacia instruccional y reflexión en contextos educativos en evolución.

Palabras clave:

padlet, TPACK, reflexividad, docentes en formación, identidad docente.

Resumo

Este artigo investiga o impacto da integração da plataforma digital Padlet e práticas reflexivas em um curso de Mestrado em TESOL sobre o crescimento profissional de futuros professores. O estudo envolveu 14 estudantes de uma universidade do sul do Vietnã e utilizou diários reflexivos, declarações evolutivas da filosofia docente, uma enquête final do curso e entrevistas estruturadas. Os resultados indicaram correlações positivas entre o conhecimento tecnológico pedagógico do conteúdo (TPACK), como percebido pelos alunos, e a estrutura e o conteúdo do curso. Dois temas principais emergiram com a integração do Padlet. O primeiro, experiências de aprendizagem aprimoradas, destacou práticas inclusivas, motivadoras e ligadas ao mundo real. O segundo, integração tecnológica, apresentou tanto as vantagens quanto as limitações da plataforma, promovendo, ao mesmo tempo, um espírito colaborativo entre os docentes em formação. A reflexão teve um papel essencial, revelando temas como inovação, ensino centrado no aluno, desafios no ensino de línguas e construção da identidade docente. Esses resultados ressaltam o desenvolvimento do TPACK, a eficácia no ensino e o compromisso com a aprendizagem ao longo da vida. O artigo discute implicações pedagógicas sobre o uso de tecnologias como Padlet e práticas reflexivas em cursos de formação docente para potencializar uma educação transformadora em EFL, além de propor futuras linhas de pesquisa sobre a relação entre TPACK, eficácia didática e reflexão em contextos educacionais em evolução.

Palavras-chave:

padlet, TPACK, práticas reflexivas, professores em formação, identidade docente.

Introduction

The revolution of the digital era has impacted educational practice, requiring the incorporation of technological tools into teacher education courses. Technology opens up new avenues for English as a Foreign Language (EFL) instruction by making lessons more efficient, engaging students more effectively, and thereby enhancing their language learning. The quality of instruction increases with the use of student-led and interactive digital environments (Choi *et al.*, 2025; Lee & Jeon, 2024).

A core pillar of this transformation resides in the Technological Pedagogical Content Knowledge (TPACK) model, which emphasizes the intersection of technology, pedagogy, and content knowledge for effective instruction (Mishra & Koehler, 2006). The ability of EFL teachers to integrate digital tools into language instruction remains critical for cultivating communication skills and learner engagement. However, empirical evidence indicates that many pre-service teachers lack the necessary TPACK competencies, which hinders the successful implementation of educational technologies (Ma *et al.*, 2024; Muslimin, 2024).

At the same time, reflective practice has long been regarded as a keystone of teacher education and professional development. Educators use formal reflection to analyze instructional practices, identify areas for improvement, and refine teaching strategies (Rodgers, 2002; Schön, 1983). The use of electronic reflection tools such as *Padlet* opens new possibilities for developing self-awareness, metacognitive skills, and professional growth. Recent research suggests that digital reflection tools enhance teachers' self-assessment abilities, enabling them to analyze and adapt instructional practices to better meet student needs (Kurniasari *et al.*, 2024; Molaoa, 2024).

In this context, the present study seeks to explore the integration of *Padlet*, a multi-purpose web platform, with reflective practices to enhance the instructional capabilities of EFL student teachers at a leading public university in Vietnam. Specifically, the study explores: (1) the relationship between *Padlet*-mediated reflection and the development of TPACK; (2) the perceptions of EFL student teachers regarding the use of *Padlet* in classroom practices; and (3) the effects of reflection on self-awareness and professional identity development. With the present study, it is anticipated that the discussion of the effectual use of web platforms for teacher education shall be enhanced with new knowledge that can guide the courses with the purpose of increasing the pedagogic ability of the teachers of the future.

Literature Review

Technological Pedagogical Content Knowledge (TPACK) in EFL Teacher Education

The TPACK framework informs the integration of technology in teacher education by emphasizing that teachers must become proficient in three broad domains of knowledge: Content Knowledge (CK), Pedagogical Knowledge (PK), and Technological Knowledge (TK) (Koehler & Mishra, 2009). The framework encompasses the subdomains of Technological Pedagogical Knowledge (TPK) and Technological

Content Knowledge (TCK), which reflect the complex influence of technology on teaching and learning processes (Choi *et al.*, 2025).

Recent studies indicate that TPACK enhances the instruction of EFL by increasing teachers' skills in designing engaging lessons, using multimodal resources for learning, and promoting student participation through electronic tools (Gozali, 2024; Lee & Jeon, 2024). Yet, pre-service teachers find it challenging with the implementation of TPACK, especially the knowledge of using technology appropriately within language instruction practices (Molaoa, 2024). The research points out that teacher education courses need to directly cover the development of TPACK using well-designed practices and reflection with the guidance of instructors (Ma *et al.*, 2024; Muslimin, 2024).

Reflective Practice in Teacher Education

Reflective practice constitutes a critical component of teacher education, fostering self-awareness, critical thinking, and continuous improvement (Schön, 1983; Dewey, 1933). Gibbs's (1988) reflective cycle provides a structured framework through which teachers can analyze and refine their instructional practices by engaging in systematic self-examination.

Recent studies have underscored the significance of reflection tools in teacher education, as they promote self-exploration, the development of a professional identity, and pedagogical enhancement (Molaoa, 2024; Kurniasari *et al.*, 2024). Research suggests that English as a Foreign Language (EFL) teachers are more likely to adapt to dynamic classroom environments, experiment with innovative instructional strategies, and tailor learning experiences to student needs when engaged in reflective practice (Choi *et al.*, 2025; Ma *et al.*, 2024).

A particularly valuable aspect of digital reflection is the use of collaborative online platforms, which enable peer review, the exchange of best practices, and constructive feedback from mentors and colleagues (Muslimin, 2024). Incorporating reflection into teacher education curricula supports the development of adaptive expertise and fosters a culture of continuous professional learning within educational institutions.

The Role of Padlet in EFL Teacher Education

One of the reflection tools that has proven effective in enhancing teacher education is *Padlet*. This digital platform enables teachers to document their experiences, engage in dialogue with colleagues, and track their professional growth over time. Recent studies indicate that *Padlet* supports the development of TPACK by offering a space for collaborative reflection, feedback exchange, and the sharing of pedagogical knowledge (Choi *et al.*, 2025; Ma *et al.*, 2024).

In the context of EFL instruction, *Padlet* has demonstrated high utility for facilitating interactive discussions, multimedia-based reflection, and asynchronous collaborative engagement among pre-service teachers (Lee & Jeon, 2024). Empirical evidence suggests that the platform encourages teachers to critically evaluate their instructional approaches, experiment with new teaching strategies, and actively participate in reflective dialogue with peers (Kurniasari *et al.*, 2024; Molaoa, 2024).

Nevertheless, several challenges persist. Technical difficulties, limited digital literacy, and teacher resistance have been identified as key barriers to the effective implementation of *Padlet* and similar web-based tools (Muslimin, 2024). Furthermore, meaningful reflective practice may be difficult for pre-service teachers to achieve without appropriate mentoring and scaffolding (Molaoa, 2024).

TPACK and Reflective Practice: A Synergistic Approach

The integration of reflective practice and the TPACK framework within teacher education has been widely advocated as a strategic response to persistent challenges in teacher preparation (Ma *et al.*, 2024). Evidence indicates that combining technology-enhanced reflection with targeted TPACK training equips teachers to integrate digital tools effectively into classroom instruction (Choi *et al.*, 2025; Molaoa, 2024).

Fostering habits of reflection enables teachers to develop critical thinking skills, pedagogical flexibility, and a deeper understanding of the potential of technology to enhance instructional impact (Kurniasari *et al.*, 2024). Empirical research underscores the importance of embedding structured reflective practice, guided discussions, and collaborative learning spaces into teacher education programs in order to maximize the synergy between TPACK and reflection (Muslimin, 2024).

Technology and reflective practice are both essential components in preparing teachers to meet the demands of contemporary classrooms. Recent scholarship highlights the significance of developing TPACK, the transformative power of reflective thinking, and the strategic use of tools such as *Padlet* in teacher education. Despite existing challenges, the path forward lies in designing teacher education programs that purposefully integrate guided reflection, collaborative engagement, and technological innovation.

The primary objective of this study is to examine the efficacy of integrating digital platforms—particularly *Padlet*—with reflective practices to enhance the pedagogical skills of EFL teachers at a major public university in Vietnam. Two theoretical frameworks inform the study: the Technological Pedagogical Content Knowledge (TPACK) model and Reflective Practice theory. TPACK, originally conceptualized by Mishra and Koehler (2006), further validated by Schmidt *et al.* (2009), and expanded by Koehler *et al.* (2014), captures the dynamic interplay between teachers' knowledge of content, pedagogy, and technology—three core domains essential for effective instruction. In parallel, Reflective Practice theory draws on Dewey's (1933) concept of "reflection-on-action" and Schön's (1983) notion of "reflection-in-action," emphasizing critical reflection as a core mechanism for teacher development (Rodgers, 2002).

This study seeks to explore the impact of integrating *Padlet* and reflective practices within an English language-teaching course for EFL student teachers. The research is guided by the following questions:

1. To what extent is the integration of *Padlet* and reflective practices, within an English language-teaching course, related to the development of Technological Pedagogical Content Knowledge (TPACK), as perceived by EFL student teachers?

2. What are EFL student teachers' perceptions regarding the use of *Padlet* for various pedagogical purposes, including lesson planning, feedback exchange, and lesson plan adaptation?
3. In what specific ways do reflective practices contribute to student teachers' processes of self-assessment and professional growth?

By addressing these research questions, the study aims to shed light on the pedagogical value and practical implications of incorporating digital platforms and reflective approaches in EFL teacher education. In particular, the findings are expected to offer valuable insights for teacher preparation programs in contexts where student teachers may have limited prior experience with critical self-reflection as a structured component of professional development.

Scientific significance

The proposed study aims to provide comprehensive insights into the integration of digital platforms and reflective practices in language teacher education, with a specific focus on EFL contexts in Vietnam. In particular, the study addresses three significant gaps in the existing literature:

1. The limited number of studies investigating the use of digital platforms (e.g., *Padlet*) in Vietnamese EFL teacher education.
2. The relative neglect of reflective practices in the training of EFL teachers in Vietnam.
3. The lack of integration of diverse data sources to gain a holistic understanding of student teachers' perceptions and professional growth.

While digital platforms such as *Padlet* have gained increasing popularity in Vietnamese educational settings—especially during and after the COVID-19 pandemic—there is still a scarcity of research examining their specific benefits and challenges within EFL teacher education at the tertiary level. This gap is particularly relevant in relation to the development of pedagogical and technological competencies among pre-service teachers (Aamri *et al.*, 2023; Alharbi & Khalil, 2022; Chan, 2022; Do *et al.*, 2023; Jehad Ali & Ahmad, 2022; Sadry, 2022; Shoecraft, 2023). By exploring the potential of digital platforms to enhance EFL teaching skills and reflective engagement, the present study contributes to filling this critical gap in the Vietnamese context.

Although reflective practice has been consistently emphasized and adopted in teacher education programs in Western countries such as the United States (Dewey, 1933; Gibbs, 1988; Rodgers, 2002; Schön, 1983), it has been relatively underutilized in EFL teacher education in Vietnam. This limitation is particularly evident in the official lesson plan templates mandated by the Ministry of Education and Training of Vietnam (2020a, 2020b, 2022), which notably lack space for structured reflection. The absence of reflection within formal teacher training frameworks risks becoming a systemic omission passed down across generations, potentially contributing to persistent issues such as low teacher quality (Nguyen & Javorsky, 2025; Ministry of Education and Training, 2023).

While previous studies have examined the effects of individual reflective tools—such as journal writing or peer feedback—on teaching practices (Chiang, 2008; Do

et al., 2023; Donyaie & Afshar, 2019; Park, 2022; Phan, 2019; Pow & Lai, 2021; Tavit, 2014), few have investigated the combined use of multiple reflective data sources. There is a gap in the literature concerning the integration of varied tools—such as weekly reflective journals, teaching philosophy statements, end-of-course surveys, and semi-structured interviews—to offer a more holistic understanding of how reflectivity fosters self-assessment and teacher development when mediated by a digital platform (Abednia *et al.*, 2013).

Methods

Research Context

This study was carried out within the framework of the compulsory course *Teaching Language Skills*, part of the MA in TESOL program at a large public university in South Vietnam. The course integrated core components centered on the use of *Padlet* to support student teachers' professional development. These components included weekly readings and discussions on language teaching methodologies, lesson planning activities, microteaching sessions, and the development of individual teaching philosophy statements. All assignments were aligned with the course's overarching objectives, which emphasized learner-centered pedagogy, reflective practice, and the integration of digital tools for instruction.

In addition to the *Padlet*-based activities, student teachers were required to maintain reflective journals throughout the semester. While *Padlet* was employed for many collaborative tasks, the reflective journals were submitted independently through alternative platforms and served as a complementary space for deeper individual reflection.

The course enrolled 15 student teachers, of whom 14 voluntarily agreed to participate in the study. These participants had teaching experience ranging from one month to over a year and expressed similar aspirations to pursue careers in language teaching post-graduation. Among them, 73.3% had more than one year of teaching experience, and 71.4% identified as female. In terms of age, 80% of participants were between 20 and 24 years old. Based on the Common European Framework of Reference for Languages (CEFR), 93.3% demonstrated intermediate-to-advanced English proficiency.

Furthermore, over half of the participants (53.3%) were concurrently engaged in teaching across diverse educational settings—including private tutoring, language centers, and public K-12 schools. These varied professional contexts influenced how they adopted and engaged with *Padlet*. For instance, those teaching in larger classes or in environments with limited technological infrastructure reported greater challenges in implementing collaborative *Padlet* activities. In contrast, participants working in more flexible or technologically equipped settings used *Padlet* more creatively and with greater frequency. These contextual factors likely shaped the participants' perceptions of *Padlet*'s usefulness and feasibility within their own teaching environments.

Additional demographic information is summarized in Table 1:

Table 1*Student Teachers' Profiles*

Pseudonyms	Gender	Age	English proficiency (CEFR)	Teaching experience	Employment status
Trần	Female	16-24	B2	1 year	Part-time
Thoa	Female	16-24	B2	None	Unemployed
Phú	Male	16-24	C1	None	Part-time
Duẩn	Male	16-24	C1	Over 1 year	Part-time
Nga	Female	16-24	C1	Over 1 year	Part-time
Văn	Male	16-24	A1	None	Unemployed
Hân	Female	16-24	B1	3 months	Full-time
Hậu	Female	16-24	B2	2 years	Part-time
Thu	Female	25-34	B2	11 years	Full-time
Hoan	Female	25-34	C1	Almost 6 years	Full-time
Hạ	Female	16-24	B2	About 2 years	Part-time
Thương	Female	16-24	B1	1 month	Full-time
Tuyên	Male	25-34	B2	3 years	Part-time
Thanh	Female	16-24	B1	None	Unemployed

Since most participants had prior experience teaching EFL and were actively engaged in further developing their instructional skills through both theoretical coursework and practical training, they are referred to as *student teachers*, reflecting their dual role as both graduate-level learners and practicing educators in this study. Prior to data collection, all ethical considerations were taken into account, and informed consent was obtained from the participants.

Research Design

This study employed a mixed methods research design, incorporating both qualitative and quantitative approaches to comprehensively assess the impact of integrating *Padlet* (Waltemeyer *et al.*, 2021) and reflective practice on students' TPACK development. The quantitative phase analyzed end-of-course survey data to examine the association between course components (e.g., *Padlet*, reflective practices) and students' professional growth. Given the small sample size ($n = 14$), Spearman's rank correlation coefficient was used to measure the relationships among variables, complemented by descriptive statistics. The qualitative phase involved thematic analysis of student-generated data, including weekly journal reflections, teaching philosophy statements, and semi-structured interviews. These data sources were triangulated to identify participants' perceptions, beliefs, and instructional development. The triangulation of results aimed to establish meaningful trends, highlight areas for instructional improvement, and underscore the perceived value of reflection and technology integration in teacher preparation.

Data Sources

Data were collected for the study from an English language education class of university students in the southern region of Vietnam. *Padlet* was the platform that the course instructor utilized for sharing materials, lesson plans, videos of the student teachers' microteachings, feedback, and amendments. Relevant materials and supplementary resources were uploaded weekly by the course instructor on *Padlet*. Assignments for the class and classwork were conducted using the platform as well. For example, the student teacher had to upload the lesson plan assigned to them at least a week before their microteaching for classmates' feedback. The video of the microteaching lesson was uploaded subsequently for classmates' viewing and feedback on *Padlet*. The student teacher was then expected to reflect upon the class lesson that they taught, read their classmates' feedback, and revise the lesson plan before the final submission for assessment.

In addition to lesson planning and microteaching, each student teacher composed weekly reflective journals that incorporated readings, lectures, discussions, and personal insights. To support reflective practices, Gibbs' (1988) reflective cycle was introduced, providing a step-by-step structure with clear guidance to navigate the reflective process effectively. This approach was particularly suitable for inexperienced student teachers new to reflective practices, as it encouraged them to revisit and describe classroom experiences and issues they encountered, especially during their teaching practice. In addition, the course instructor provided feedback to foster deeper reflection.

Additionally, student teachers created teaching philosophy statements, completed an end-of-course survey, and participated in structured interviews. The survey employed a 1–5 Likert scale to gauge student teachers' perceptions of the course components, with 1 representing "Strongly Disagree" and 5 "Strongly Agree." Structured interviews with the 14 student teachers explored their beliefs, the perceived benefits of *Padlet*, and the ways in which reflective practices supported their growth as EFL teachers.

Data analysis

Data analysis involved both quantitative and qualitative examination, guided by the TPACK framework (Mishra & Koehler, 2006; Koehler et al., 2014; Schmidt et al., 2009) and Reflective Practice theory (Dewey, 1933; Gibbs, 1988; Rodgers, 2002; Schön, 1983). Quantitative data from the end-of-course survey underwent Spearman rank correlation analysis to explore relationships between students' TPACK perceptions and course components—specifically the use of *Padlet* and reflective practices.

Qualitative data from structured interviews, journal entries, and teaching philosophy statements were reviewed through thematic coding. Reflective Practice theory informed the analysis of the student teachers' reflective journals, evolving teaching philosophy statements, and interview transcripts, examining the extent to which these reflections contributed to self-awareness, problem-solving abilities, and continuous improvement in their English language teaching skills. A color-coded codebook ensured coding consistency. Initially, a priori coding based on TPACK categories and Reflective Practice theory was applied; however, new codes emerged iteratively, expanding the coding scheme. These codes were then integrated into

the analytical framework, resulting in the synthesis of two themes related to *Padlet* integration and three themes regarding the impact of reflective practices on teacher development.

Findings and Discussion

The integration of *Padlet* and reflective practices in the English language teaching course was positively associated with the student teachers' development of TPACK. Over the duration of the course, participants demonstrated growth in TPACK knowledge, pedagogical skills, and instructional awareness, indicating evidence of professional learning. The findings of this study are discussed in light of the following research questions:

Research Question 1: Is the integration of *Padlet* and reflective practices within an English language teaching course related to the development of technological pedagogical content knowledge, as perceived by EFL student teachers?

To address this, a Spearman rank correlation was performed to explore the relationship between students' TPACK development and course components, particularly how the use of reflective journal entries was organized on the *Padlet* platform. A moderate, positive monotonic correlation was found between students' TPACK and course components ($r_s = .54$, $n = 14$, $p = .046$, two-tailed).

Descriptive analysis further indicates that the integration of *Padlet* and reflective practices contributed to enhanced TPACK development. Most students self-rated their effort in the course—specifically reflective journaling on the *Padlet* platform—as excellent (85.7%). Course activities comprising reflection entries, lesson planning, microteaching videos, lesson plan modifications, and teaching philosophy statements delivered via *Padlet* were also highly rated, with 78.6% of students considering them very good or excellent in contributing to their TPACK development at the end of the course. Students' TPACK levels were self-rated as satisfactory (42.9%), very good (35.7%), and excellent (14.3%). These findings align with previous research, which highlights the positive influence of technology in enriching students' TPACK and class-wide interaction (Aamri et al., 2023; Alotumi, 2020; Chan, 2022; Do et al., 2023; Graham, 2011; Koh et al., 2010; Sadry, 2022; Sari, 2019; Shoecraft, 2023; Ta et al., 2023; Zainuddin et al., 2020).

Research Question 2: What are the perceptions of student teachers concerning the employment of *Padlet* for various activities, such as lesson planning, feedback exchange, and modifying lesson plans?

Two condensed themes emerged from students' reflective journal entries, the end-of-course survey, and individual interviews. These themes illuminate their perspectives on learning experiences and technology integration.

Enhanced Learning Experiences

Padlet integration revealed the extent of the benefits, which included engagement, feedback mechanisms, and class communication, highlighting the ability of the students to utilize technology for efficient language instruction. This ability was observed in their reflections on peer-created lesson plans, goals, accommodations, and inclusive instruction. For example, in her journal, Thu expressed enjoyment in using warm-up procedures and video incorporation within lesson plans that were shared on *Padlet* (All student teacher names are pseudonyms). This demonstrates her appreciation for multimedia and interactive components in lesson planning. Similarly, Hoan commended *Padlet* for enabling the sharing of ideas and collaboration, underscoring how the platform promoted community-building in classroom interactions. Thoa imagined an innovative classroom scenario using *Padlet* to encourage anonymous poem sharing:

My idea is to let the students put their poems anonymously on a platform that allow [sic] comment [sic] like Padlet, and ask them to give some meaningful and positive thought about others' works. This way it can create some chucklesome time if the poems are funny and provide an opportunity for shy or introverted students to know what other people really think of them through the poem – which are just positive comments and can hopefully in some way help them feel more confident and open up to their friends.

This quote reveals how Thoa valued *Padlet* as a psychologically safe space for creativity and peer validation, especially for more introverted learners. These findings align with those of Jehad Ali and Ahmad (2022), who highlighted the efficiency of *Padlet* for class-wide participation and meaningful discussion within the classroom context. These findings underscore the capability of *Padlet* to support collaborative and inclusive learning environments aligned with new learning goals.

Technology Integration

Reflective thinking revealed complex understandings of the integration of technology that encapsulated *Padlet*'s pros and cons. Qualitative analysis highlighted the active participation of students with *Padlet* as a flexible technology, particularly its easy, practical, and engaging nature, which aided in improving students' learning processes throughout the course. The ability of the students to utilize the technology for collaborative and interactive learning indicated the maturation of their TPACK. Hâu best illustrated this by expressing: "Padlet helped me post my lessons and my classmates gave me a lot of useful suggestions." This statement reflects the reciprocal learning facilitated by *Padlet*, where peer feedback enhanced the instructional design process. These findings are consistent with previous research that revealed positive learner attitudes toward the integration of *Padlet* (Aamri *et al.*, 2023; Alotumi, 2020; Chan, 2022; Do *et al.*, 2023; Sadry, 2022; Sari, 2019; Shoecraft, 2023; Ta *et al.*, 2023; Zainuddin *et al.*, 2020).

Despite its appreciated benefits, the students openly reported challenges and suggested improvements to increase the usability of *Padlet*, with similar strategies for overcoming challenges also reported in Sadry's (2022) study. For instance, while Tuyền appreciated *Padlet*'s usefulness, he noted that its interface could become

overwhelming: "Very helpful, but it can look confusing as many people comment and post things, which makes it hard to find the necessary information." This comment indicates a need for better information management within collaborative digital platforms. To address this issue, Duẩn proposed a feature improvement: "It's good, but we should have a sorting function to prevent things from becoming messy." This practical suggestion highlights students' capacity for critically evaluating technological tools. Additionally, Thoa reported difficulties related to reading peer feedback due to small font sizes, and Hà emphasized the need for faster uploading and downloading speeds, especially when sharing large media files from microteaching sessions. These concerns underscore the technical constraints that may impede effective learning when using digital tools.

Nevertheless, *Padlet's* integration provided a unique avenue for students to foster positive relationships within the community of student teachers. This aligns with Garrison *et al.* (2000) "community of inquiry" framework, highlighting cognitive, social, and teaching presence in virtual learning environments. Students recognized educators' multifaceted role, promoting engagement, valuing diverse perspectives, empowering peers, and reflecting on technology's practical dimensions (Jehad Ali & Ahmad, 2022). Notably, 42.9% of students planned to use *Padlet* in their future classrooms. Hà, for instance, shared her anticipation, "It [*Padlet*] with [*sic*] help me to show ideas with my students and play a [*sic*] essential role in my teaching in the future." This forecast reflects students' long-term valuation of *Padlet*, not merely as a tool but as a pedagogical ally in fostering participatory and reflective learning. Students' perceptions of *Padlet* transcended its role as a mere technology, elevating it to a pivotal instrument in enhancing PCK (Mishra & Koehler, 2006; Koehler *et al.*, 2014; Schmidt *et al.*, 2009).

Research Question 3: In what specific ways do reflective practices contribute to the process of self-assessment and professional growth among student teachers?

Reflective practices in the course played a critical role in nurturing self-assessment and fostering students' professional growth, aligning with findings from previous literature (Abednia *et al.*, 2013; Dewey, 1933; Donyaie & Afshar, 2019; Gibbs, 1988; Park, 2022; Rodgers, 2002; Schön, 1983; Tavi, 2014). Data from reflective journaling, teaching philosophy statements, and interviews revealed three key themes: student-centered teaching, challenges and strategies in language instruction, and the development of teacher identity.

Student-Centered Teaching

Reflective practices encouraged students to self-assess their teaching practices and adopt various non-traditional, innovative teaching approaches, fostering dynamic changes in their instructional methods, which aligns with student-centered approaches. For instance, Thoa's reflection detailed plans to diversify writing activities by encouraging creative writing through technology integration and showcasing student-voted best works to boost motivation. Phú stressed the importance of fostering creativity, while Thanh used music, podcasts, and movies to enrich learning.

Thanh also shared her daily writing routine, emphasizing the teacher's role in inspiring creativity.

We [teachers] inspire them [learners] to be creative and active to write. We give them the opportunity to practice their writing. We show them the beauty of language, help them make their feelings clear by writing, or show their gratitude to their parents, their family, and teachers, for example.

This quote reflects the belief in teaching as a vehicle for personal expression and emotional intelligence. Other students also demonstrated "reflection-in-action" (Schön, 1983). For example, Trần emphasized using diverse approaches to enhance students' writing skills, while Thoa tackled challenges by suggesting engaging activities.

Moreover, reflective practices drive student teachers to acknowledge students' diverse learning styles and accordingly provide differentiated instruction to meet their needs. For example, Thu's teaching philosophy promoted curiosity through tactile learning, while Thương tailored methods to align with students' goals. Thoa emphasized the use of visual aids and the importance of creating a stress-free class environment. Hân, Hậu, and Trần advocated for student-centered approaches to cater to diverse learning preferences. Nga fostered a comfortable environment, and Hạ used motivation and positive reinforcement. Tuyên compared English learning to sports, emphasizing practicality and comfort:

I believe learning English is just like playing sport, and it should be fun and practical. My goals when teaching English is to get my students motivated and capable of using the language in different contexts... Additionally, an English classroom should be stress-free, so students feel comfortable and confident to speak up their voice with the least fear of making mistakes.

This analogy underscores his belief in reducing affective barriers to language learning and making instruction meaningful and experiential. Similarly, Hân acknowledged varied learning styles, noting, "Some people can learn quickly from visual images or games, but others absorb immediately by writing down, repeating, or practicing what they have just learned." This reflection reveals a growing awareness of the need for differentiated instruction. Thu stressed sensory experiences for young learners, using real objects and images, while Hoan valued uniqueness and sought to build confidence in a stimulating environment. She believed:

(1) every student is a unique person with different characters and motivations, (2) the classroom should become a stimulating environment to build up their confidence and learning ability, and (3) assessment is not to categorize good or bad students but to reflect the students' progress,... every student is not the same and not all are born to learn the English language. For me, all of my students don't need to be good students at English but I want them to be aware that they can learn the language and every of their progress is counted.

Hoan aimed to empower all students by emphasizing individuality and celebrating progress, which aligns with a student-centric approach that fosters accomplishment beyond uniform standards. The qualitative data above, from participants' reflective journal entries, evolving teaching philosophy statements, and individual structured interviews illustrate their professional growth in terms of innovative teaching strategies and student-centered approaches.

Challenges and Strategies in Language Instruction

Challenges in language instruction, as explored by Donyaie and Afshar (2019) and Phan (2019), were evident in students' reflective entries. This theme highlighted metacognition, showcasing students' reflections on their teaching practices and outcomes. Feedback and effective methods were highly valued, affirming students' commitment to self-assessment and professional growth (Jehad Ali & Ahmad, 2022). Tuyền identified speaking as an anxiety-inducing task—a “heart-fainted activity”—and stressed the need for confidence-building strategies. Thanh acknowledged that grammar-focused teaching can be intimidating and proposed fostering a safe space for student input. Tuyền emphasized the importance of motivating students to write, while Nga recognized the complexity of writing and called for restructuring the writing process.

Student teachers' awareness of these challenges and their coping strategies indicated their metacognitive thinking and commitment to enhancing their pedagogical skills. For instance, Trần emphasized the importance of engaging the audience and providing support for writing, echoing Do *et al.* (2023). Trần highlighted the role of teachers as motivators, resources, and feedback providers, which helps build students' writing confidence. Thoa contrasted traditional and collaborative writing approaches, finding the latter more effective for generating ideas and exploring new styles:

Compared to the traditional way which was used in both my secondary and high school year, where students are asked to finish a story on their own from head to toe, today's activity is much more effective in the aspects of helping students generate ideas and explore other styles of writing. Since nobody had to suffer individual responsibility for the final versions, it made way for us to follow the impulses of our own minds, as well as allow thoughts and inspiration to appear without premeditation.

Her reflection supports the benefits of collaboration in creative processes and instructional design. Collaborative dialogues, as noted by Trần, facilitated multifaceted comprehension and knowledge exchange. In terms of vocabulary development, Hậu expressed concerns about the restrictive impact of smartphones on creativity and learning unfamiliar words. Addressing L1 (i.e., the mother tongue) use in language classrooms, Hoan recognized its challenges and committed to balancing L1 and L2 (i.e., English in this study) usage. Similarly, Thu contemplated the interplay between L1 and L2 in low-proficiency classrooms. These reflections demonstrate students' commitment to refining their teaching methods and practices, continually adapting to address the challenges in EFL instruction.

Construction of Teacher Identity

This theme underscores student teachers' self-assessment and growth, echoing Abednia *et al.* (2013). Reflective journaling illustrates this evolution, starting with structured guidance, as seen in Trần's initial entry—merely recounting events—and gradually progressing to more advanced analysis, in line with Gibbs's (1988) reflective cycle. This evolution parallels the literature (Abednia *et al.*, 2013; Donyaie & Afshar, 2019; Suphasri & Chinokul, 2021). Thoa's entries also showcased this transition, with “self-observation” and “self-evaluation,” leading to teacher growth through improved analytical skills, observation, and teaching practices:

... writing a reflective journal, where I can have the opportunity to look at what we do in the classroom, how we do it, think about why we do it and question whether it works or not so. In other words, this is a process of self-observation and self-evaluation.

This quote captures the deepening of metacognitive awareness and the foundation of teacher identity formation. Reflective practices extended to broader pedagogical perspectives, addressing issues such as World Englishes and the native/non-native teacher debate. Thanh, for instance, challenged the preference for native English teachers and called for systemic change:

Even now in Vietnam, we could see a lot of English centers pay a lot of money to hire a blond-haired and blue-eyed teacher though they are not from English-speaking countries. In my view, we need to change our mind before changing the educational system.

Her comment reflects a maturing professional philosophy that values equity and challenges superficial markers of language proficiency. As student teachers engaged in reflective practices and continuously self-assessed their existing practices, their pedagogical philosophies evolved, shaping their teacher identities. Tuyền's philosophy statement emphasized language exposure and practices, while Duẩn and Văn advocated for authentic learning through the use of visuals and real-life connections. Thanh questioned traditional assessment methods, advocating for alternative ones, and Hoan shifted focus from assessing "product" to evaluating student progress. Hoan's philosophy exemplified this transformation from knowledge providers to learning facilitators: "Teaching is not the process of imposing your decisions on the students' as a knowledge provider, but rather it's a process of harmonizing and meeting the students' needs and facilitating the students' learning process."

Students embraced authenticity, creativity, and empowerment in their narratives, aiming to inspire future generations. Thoa, for example, emphasized the importance of providing the best education for all children: "all children are unique and have a lot to give, in other words, they are the future of the world and they should be given the best education possible." Her philosophy reflects a profound commitment to student well-being and educational equity.

This growth journey involved developing balanced and engaging approaches while maintaining a deep commitment to students' education and futures. The student teachers' dedication to lifelong learning and professional growth was also evident in their reflections and teaching statements. They viewed continuous improvement and philosophical introspection as vital for refining teaching skills and promoting autonomous learning within their community. This reflects the "community of inquiry" concept (Garrison *et al.*, 2000; Pow & Lai, 2021), as illustrated by Thoa:

I believe that it's important for students to ask big questions and never stop looking for the answers because true learning never stops. It doesn't matter where they are from, it doesn't matter what kind of education they have gotten, it doesn't matter how many years of experience they have had, there is always some extra room to learn something, and there is always room for a teacher's presence.

Thoa's belief in perpetual learning echoed the idea that authentic learning is a continuing process. She also highlighted the impact of wise teachers on expanding students' horizons in the final version of her teaching philosophy statement. Hậu,

meanwhile, focused on student autonomy, and Thanh recalled an influential teacher who guided her own learning journey.

Overall, the data from journaling, teaching philosophy statements, and individual interviews documented how reflection practices led student teachers to self-assess their current beliefs of the EFL learning process, teaching challenges and strategies, technology integration, and subsequently shifted to tailored innovative instruction within student-centric approaches, which demonstrates student teachers' professional growth as educators with lifelong learning mindsets. In other words, the integration of reflective practices positively influenced their perceptions of technology use, adaptability, and engagement in self-assessment and ongoing teacher learning (Moon, 2004; Tondeur *et al.*, 2012).

Pedagogical Insights and Recommendations

Incorporation of *Padlet* into curriculums has proved successful in shaping positive attitudes for university students (Jehad Ali & Ahmad, 2022). Even though it enhances participation and motivation and facilitates lesson sharing of lesson schemes and sharing of feedback (Sari, 2019), teachers need to be careful of the challenges that include technical glitches and coping with increased class sizes (Sadry, 2022). To offset these challenges, teachers are able to offer clear and concise guidelines for the duration of the technical orientation such that the students are well accustomed with the functionalities of *Padlet*. The capability of tracking progress in real-time solves technical challenges at the point of occurrence. Leveraging the advantages of *Padlet* and the other technology tools assists in generating more desired learning outcomes (Shoecraft, 2023).

Reflective journaling, though beneficial to student growth, posed a challenge to the students in this study, in alignment with the results of previous research (Abednia *et al.*, 2013; Donyaie & Afshar, 2019; Suphasri & Chinokul, 2021). The majority of the students found reflective journaling difficult to undertake, primarily as a result of previous exposure to more traditional education systems that were teacher-centered, placed much value on the reproduction of knowledge by rote, and involved minimal critical thinking. That environment limited the potential of the students to conduct critical reflection on teaching practice and to engage in deep reflection. The students' preparedness for critical and in-depth reflection was underdeveloped in most cases, resulting in superficial generalizations and opinions instead of the insight necessary for deep reflection. During the first few weeks of the course, student teachers' reflections tended to merely recount class events, rather than being written at the level of reflection expected by the instructor.

Accordingly, instructors should provide clear instructions regarding the aim and objectives of reflective journals. Direct instruction on the nature of reflective thinking should be delivered using samples that distinguish between surface-level reflection and critical reflection. The utilization of Gibbs' (1988) reflection model can support students' ability to cope with the complexity of the reflective process by guiding them through the various phases of reflection (i.e., description, feelings, evaluation, analysis, conclusion, and action plan), thus increasing the depth of reflection and insight into teaching practices.

Study Limitations and Future Directions

The use of structured interviews in this study and its localized research context present certain limitations. The structured interviews constrained participants from fully elaborating on their views, potentially limiting the depth of insights. The study was conducted in a mandatory teacher preparation course at a public university in South Vietnam. When interpreting the findings, it is important to consider various factors from this setting, including the educational environment and local socio-cultural context.

In order to counter these restrictions, subsequent research should utilize more unstructured or semi-structured interview techniques, focus groups, and observation. These tools could allow for deeper insight into the opinions and thinking of the participants. Replication of the study in different educational environments is suggested to verify or challenge the results obtained.

Another area of inquiry lies in the viability and challenges of employing digital spaces and reflection practices with more teacher candidates. Extending the population study to different cultural environments—alternative TESOL contexts—could provide insight into the setting-specific features or the universality of teacher development practices and challenges.

While short-term gains of combining Padlet and reflection were addressed, further research is needed on the impact of these practices on teacher candidates' instructional skills beyond the duration of the one-semester course. Exploring the long-term consequences may provide valuable insight into their sustained impact on teacher education.

Conclusion

Combining the use of *Padlet* and reflection practices within the course on English language instruction has yielded desirable outcomes for both student TPACK and teacher learning. The research findings highlight the importance of integrating the use of digital tools and reflective practices within courses on teacher education in order to better teach and engender a culture of continual improvement among future teaching professionals.

The various themes that emerged from the incorporation of *Padlet* are representative of the transformation in students' knowledge and pedagogical skills. The use of technology—more specifically, *Padlet*—has contributed substantially toward engaging the students and providing constructive peer feedback that enhances the quality of language learning experiences. Simultaneously, the incorporation of reflection practices within the technology-enhanced classroom environment has led to the transformation of instructional paradigms. The students adopted student-centered practices that address the diverse learning needs of individuals and foster positive classroom environments.

The obstacles and solutions for language instruction were identified through the implementation of successful techniques suggested for overcoming these challenges. Most prominently, the integration of reflection practices promoted the development

of teacher identity and a lifelong commitment to learning and improvement. Future teacher education programs may consider adapting the same methodology using *Padlet* or other collaborative platforms such as Google Jamboard. These tools, when paired with guided reflection and peer feedback, can foster similar outcomes in professional learning and identity development.

One of the PSTs, Vãn, best articulated this sentiment in the final draft of the teaching philosophy statement:

Teaching is an honorable profession, many can help those in need or hardship develop into polish gems of society, however, even though the importance of education is held by the teacher, the potential hidden inside every student is the target for the teacher to invoke.

This perspective encapsulates the essence of teaching, extending beyond the mere imparting of knowledge to fostering personal growth and empowerment. Vãn's words echo the wisdom of William Arthur Ward (Ward, n.d.), "The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires". Ultimately, teaching's true essence lies in its power to inspire, shaping lives and futures with each enlightening encounter.

Notes:

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Authorship contribution:

Hà T. V. Nguyễn: conceptualization, data curation, formal analysis, research, methodology design, writing of the draft and review of the manuscript.

Quang Nam Pham: resource management, research, writing of the draft, and review of the manuscript.

Availability of data:

The dataset supporting the findings of this study is not publicly available.

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Conducting Online Courses for the Professional Development of English Teachers: Integration of Synchronous and Asynchronous Components

Realización de cursos en línea para el desarrollo profesional de docentes de inglés: integración de componentes sincrónicos y asincrónicos

Ministrando cursos online para o desenvolvimento profissional de professores de inglês: integração de componentes síncronos e assíncronos

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Abstract

The design and implementation of teacher training courses for English teachers demand careful strategic planning to integrate synchronous and asynchronous components effectively. Such courses play a critical role in fostering meaningful professional development by addressing the unique needs of educators and their educational contexts. This article examines the essential considerations for creating an online learning environment that supports both theoretical understanding and practical application. Key aspects discussed include aligning learning objectives with interactive and engaging activities, leveraging accessible and user-friendly technological tools, and cultivating spaces for reflection, collaboration, and knowledge sharing among participants. The integration of synchronous sessions enables real-time interaction, fostering a sense of community and immediacy, while asynchronous components provide flexibility and opportunities for self-paced learning. Together, these elements ensure a balanced approach to teacher development. The article also highlights strategies for bridging theory and practice, ensuring that educators can apply course content to real-world classroom scenarios. These strategies include using case studies, project-based tasks, and reflective exercises tailored to the challenges teachers face in their practice. The conclusion emphasizes the importance of designing culturally and linguistically inclusive learning experiences that not only strengthen teachers' pedagogical and linguistic competencies, but also enhance their capacity to create effective language learning opportunities for students. By prioritizing sustainable and context-sensitive approaches, these courses can contribute significantly to improving language education outcomes. Furthermore, it follows Guskey (2002) in valuing the assessment of instances of professional development with a view to improvement.

Keywords:

online courses, professional development, synchronous, asynchronous, teacher training, pedagogical competencies.

Resumen

El diseño e implementación de cursos de formación docente para profesores de inglés requiere una planificación estratégica cuidadosa para integrar de manera efectiva componentes sincrónicos y asincrónicos. Estos cursos desempeñan un papel fundamental en el fomento del desarrollo profesional significativo al atender las necesidades específicas de los docentes y sus contextos educativos. Este artículo examina las consideraciones esenciales para crear un entorno de aprendizaje en línea, que apoye tanto la comprensión teórica como la aplicación práctica. Se discuten aspectos clave como la alineación de los objetivos de aprendizaje con actividades interactivas y atractivas, el uso de herramientas tecnológicas accesibles y fáciles de usar, y la creación de espacios que fomenten la reflexión, la colaboración y el intercambio de conocimientos entre los participantes. La integración de sesiones sincrónicas permite interacciones en tiempo real, promoviendo un sentido de comunidad e inmediatez, mientras que los componentes asincrónicos ofrecen flexibilidad y oportunidades de aprendizaje a ritmo propio. En conjunto, estos elementos aseguran un enfoque equilibrado para el desarrollo docente. El artículo también destaca estrategias para conectar la teoría con la práctica, asegurando que los docentes puedan aplicar los contenidos del curso en escenarios reales de aula. Estas estrategias incluyen el uso de estudios

de caso, tareas basadas en proyectos y ejercicios de reflexión adaptados a los desafíos de la práctica docente. La conclusión resalta la importancia de diseñar experiencias de aprendizaje cultural y lingüísticamente inclusivas que no solo fortalezcan las competencias pedagógicas y lingüísticas de los docentes, sino que también mejoren su capacidad para crear oportunidades efectivas de aprendizaje de idiomas para los estudiantes. Al priorizar enfoques sostenibles y sensibles al contexto, estos cursos pueden contribuir significativamente a la mejora de los resultados en la enseñanza de idiomas.

Resumo

O design e a implementação de cursos de formação para professores de inglês exigem um planejamento estratégico cuidadoso para integrar de forma eficaz os componentes síncronos e assíncronos. Esses cursos desempenham um papel fundamental no fomento do desenvolvimento profissional significativo, atendendo às necessidades específicas dos educadores e de seus contextos educacionais. Este artigo examina as considerações essenciais para criar um ambiente de aprendizagem online que apoie tanto a compreensão teórica quanto a aplicação prática. São discutidos aspectos-chave, como o alinhamento dos objetivos de aprendizagem com atividades interativas e envolventes, o uso de ferramentas tecnológicas acessíveis e amigáveis, e a criação de espaços que promovam reflexão, colaboração e troca de conhecimentos entre os participantes. A integração de sessões síncronas permite interações em tempo real, promovendo um senso de comunidade e imediatismo, enquanto os componentes assíncronos oferecem flexibilidade e oportunidades para aprendizado no próprio ritmo. Juntos, esses elementos garantem uma abordagem equilibrada para o desenvolvimento docente. O artigo também destaca estratégias para conectar teoria e prática, garantindo que os educadores possam aplicar o conteúdo do curso em cenários reais de sala de aula. Essas estratégias incluem o uso de estudos de caso, tarefas baseadas em projetos e exercícios de reflexão adaptados aos desafios da prática docente. A conclusão enfatiza a importância de projetar experiências de aprendizagem cultural e linguisticamente inclusivas que não apenas fortaleçam as competências pedagógicas e linguísticas dos professores, mas também aprimorem sua capacidade de criar oportunidades reais de aprendizagem de idiomas para os alunos. Ao priorizar abordagens sustentáveis e sensíveis ao contexto, esses cursos podem contribuir significativamente para a melhoria dos resultados no ensino de idiomas.

Palabras clave:

cursos en línea,
desarrollo profesional,
sincrónico, asincrónico,
formación docente,
competencias
pedagógicas.

Palavras-chave:

cursos online,
desenvolvimento
profissional, síncrono,
assíncrono, formação
docente, competências
pedagógicas.

Introduction

This paper presents an account of the design and implementation of a professional development cycle for English language teachers working across multiple sites at a university in Chile. The cycle incorporates two self-access courses completed autonomously by participants, three synchronous webinars, a series of asynchronous activities, and several practical tasks, including the production of a podcast. The cycle was collaboratively designed by two of the authors in partnership with the third author, who serves as a teacher coordinator at the university.

The focus of this professional development initiative is on teaching grammar within a program for higher education students learning English. The cycle participants conduct their teaching activities by engaging with students via an online platform and blended face-to-face sessions. This is the basis of the four mandatory English courses included in undergraduate programs at the University already mentioned. Each course lasts a semester (16 weeks for instruction and 2 weeks for exams). The purpose of these courses is to develop English language communicative skills for students to reach the level of an independent user (B1 of the Common European Framework of References). To this end, a Blended Learning (BL) approach was considered appropriate in this context due to its advantages to both students and faculty (Owston *et al.*, 2013). The online component (50% of the time) is based on a commercial online platform that provides practice on grammar, listening, reading and pronunciation with automated feedback. The weekly face-to-face sessions with the instructor (50% of the time) are devoted to practice activities through pair or group work and reinforcement of topics and grammar items. Furthermore, students are expected to take part in interactive online forum activities during the course.

Initiatives like the cycle discussed in this article are vital components of in-service professional development for teachers. It is our contention that institutions should prioritize such programs to ensure continuous improvement in teaching quality, thereby enhancing teacher effectiveness, supporting student learning outcomes (Darling-Hammond, 1999), and fostering broader community development.

To explore the processes involved in setting up such a cycle, this paper provides an overview of key principles underpinning professional development programs for ESOL teachers. It delves into the design and implementation phases of the cycle, reflecting on the outcomes and their implications. The specificity of the local context plays a pivotal role in shaping effective professional development initiatives, and this paper highlights how contextual considerations inform the design and execution of such programs. Sharing these insights is presented as an integral part of refining and improving the professional development process.

Object of Study

This article investigates the critical need for professional development (PD) programs tailored to address the unique challenges and opportunities within higher education environments, particularly for English for Speakers of Other Languages (ESOL) teachers. It seeks to fill a gap in existing research on online professional development programs designed specifically for ESOL educators, who face distinct challenges

such as limited resources, professional isolation, and restricted access to peer networks in virtual teaching settings. "Although we need to build teachers' capacity for improvement, we also need to be sure that time, effort, and scarce resources are expended only on quality programs that teach with and about best practices" (Dede *et al.*, 2009, p. 8).

The study focuses on understanding how local contexts influence teacher development and student outcomes in online higher education. It argues that generic PD initiatives often fail to address these context-specific challenges, underscoring the need for localized, adaptable solutions that are responsive to the realities of teaching in diverse online environments. ESOL courses should take into account that teaching and learning a language involves much more than just developing linguistic skills but being aware of cultural background, cultural identity, individual attitudes toward languages, concepts of race and social class (Jong & Harper, 2005). The same applies to PD programs.

By examining these issues, the article aims to evaluate the effectiveness of context-sensitive PD programs in enhancing teacher performance, improving student success, and fostering community engagement. It sets the stage for a discussion on how tailored PD initiatives can bridge the gap between theoretical frameworks and practical applications, ensuring that teachers in higher education are better equipped to meet the needs of their learners.

Background

The professional development cycle under scrutiny here was implemented at a university in Chile, where English language instruction is a critical component of the curriculum for higher education students. The participating teachers work across multiple campuses and deliver English courses to a diverse cohort of students, many of whom are non-traditional learners balancing academic studies with professional and personal commitments.

The university's English program is designed to support students in achieving the language proficiency required for academic success and professional advancement. It adopts a blended learning approach, combining an online platform for self-directed learning with synchronous tutorial sessions facilitated by the teachers. The program emphasizes practical language use, targeting skills such as reading, writing, speaking, and grammar in real-world contexts relevant to the students' fields of study.

Teachers in this context face unique challenges, including managing large class sizes, addressing varied levels of English proficiency, and leveraging online platforms to create engaging and effective learning experiences. These factors informed the development of the professional development cycle, ensuring it was tailored to address the specific needs and realities of the teaching environment. Research supported our plan:

Theory drives practice (Hennissen *et al.*, 2017); therefore, strengthening the teacher mindset is crucial to teacher development and growth. Teacher education programs that promote theory-based practice (i.e., culturally relevant teaching, culturally responsive teaching, culturally sustaining) have the potential to cultivate preservice teachers (PSTs) cultural competency and

critical consciousness. Shifting from a deficit perspective toward developing an asset-based mindset (Flint & Jagers, 2021) requires introspection and reflexivity, as well as in-depth knowledge of the communities that teachers serve. As a way of supporting cultural understanding, partnerships between universities and local area school districts are needed to support both PST learning and in-service teacher practice. (Dwomoh, 2023, pp. 1421-1422)

The professional development cycle originated from a collaborative effort between the university's teacher coordinator and external experts in English language teaching. It was designed in response to the growing need for targeted support in teaching grammar effectively within the university's blended learning model. The initiative sought to enhance teachers' pedagogical competencies, particularly in integrating grammar instruction with the broader aims of academic and professional language use. Furthermore, as the cycle was delivered using an online platform, it aimed to allow participants to experience learning in a similar format to that experienced by the learners they teach, thus providing an added benefit.

The cycle involved English language teachers from several campuses, representing a range of experience levels. Some participants were relatively new to teaching English in higher education, while others brought years of experience but sought to refine and reflect upon their approaches to teaching grammar in an online blended learning context.

The professional development cycle consisted of:

- **Two self-access courses:** These were designed to be completed autonomously, allowing participants to explore key concepts in grammar instruction and blended learning pedagogy at their own pace.
- **Three synchronous webinars:** Facilitated by the program's designers, these webinars provided opportunities for real-time interaction, sharing best practices, and addressing challenges faced in the classroom. The first introductory webinar was meant as an introduction to the cycle and helped organizers become acquainted with participants' needs and expectations. The second webinar focused on challenges teachers face when teaching grammar and the last one, as a closing session, provided feedback on the cycle.
- **Asynchronous activities:** Participants engaged in collaborative discussions, reflective tasks, and peer feedback through the online learning platform over the course of several weeks.
- **Practical tasks:** These included designing a collaborative lesson plan and the production of a podcast, which required participants to apply theoretical knowledge to create a tangible product demonstrating their pedagogical approaches to grammar instruction. Participants were also provided with extended and optional bibliography on each of the topics covered catering for the needs of both experienced and novice teachers.

Participants were expected to

- engage actively with all components of the cycle, including self-access courses, webinars, and tasks;
- reflect on their current teaching practices and identify areas for improvement;

- demonstrate the application of new strategies in their teaching contexts, particularly in grammar instruction.

Cycle tutors engaged with participants by

- providing expert guidance and support throughout the cycle;
- facilitating meaningful discussions and offering constructive feedback on participants' work;
- adapting content and approaches to meet the evolving needs of the participants.

Cycle managers, which in this case were also the course tutors but could have been other individuals, were responsible for

- ensuring the professional development cycle aligns with institutional goals and priorities;
- monitoring participant progress and encouraging active participation;
- fostering a culture of continuous learning and professional growth among teaching staff.

This comprehensive professional development initiative aimed not only to enhance teachers' pedagogical skills but also to build a community of practice (CP) among educators, fostering collaboration and innovation in teaching grammar within a blended learning environment and beyond. A growing body of research supports the benefits of a community of practice: it fosters collaborative learning beyond formal educational institutions (Lave & Wenger, 1991; Wenger, 1998; Wenger *et al.*, 2002, in Iswati, 2023); it consists of three main components — *mutual engagement* (interactions and relationships among members), *joint enterprise* (participants' commitment to the community's development), and *shared repertoire* (transformation of resources into assets for the community) (Wenger, 1998, in Iswati, 2023); and it helps develop valuable skills that contribute to teachers' professional growth (Richards, 2010, in Iswati, 2023).

Theoretical Framework

Teacher development and professional learning are dynamic, context-sensitive processes rooted in constructivist and sociocultural theories. Constructivist approaches emphasize that teachers learn best when they actively engage with content, reflect on their practices, and collaborate with peers to construct new knowledge (Van Schaik *et al.*, 2019). Sociocultural theories, such as Vygotsky's concept of the Zone of Proximal Development, highlight the importance of social interaction and community in fostering professional growth. These perspectives underscore that effective professional development (PD) should be collaborative, reflective, and contextually relevant to empower teachers to adapt to their unique environments.

In the design of the program under analysis, the principles for professional development proposed by Casteel and Ballantyne (2010), as well as by Irby, Beverly J., guided the authors Guerrero, Lara-Alecio, Tong, and Rodriguez (2012). These principles are combined and summarized below:

Effective professional development programs for ESOL teachers are grounded in a set of principles designed to enhance teacher expertise, foster reflective practice, and improve student outcomes. These principles include:

- 1. Building on Existing Expertise** - Professional development should build on teachers' foundational skills, knowledge, and experience, integrating these with evidence-based practices to address the specific needs of English language learners. (Darling-Hammond *et al.*, 2017)
- 2. Engaging Participants as Learners** - Teachers are actively involved as learners, engaging with content, teaching strategies, integrated technologies, and curriculum standards. This approach mirrors the practices they will apply in their classrooms, ensuring relevance and applicability.
- 3. Providing Practice, Feedback, and Follow-Up** - Opportunities for hands-on practice and immediate feedback are integral to the learning process. Follow-up sessions support teachers in implementing new strategies and refining their skills over time.
- 4. Facilitating Inquiry and Reflection** - Encouraging teachers to engage in inquiry-based learning fosters critical reflection on their practices. This process enables continuous improvement and adaptation to diverse teaching contexts.
- 5. Ensuring Sustained Engagement** - Effective professional development requires a substantial and ongoing commitment from both participants and program developers. This sustained effort allows for deeper learning and meaningful integration of new strategies into teaching practices.
- 6. Measuring Impact** - Professional development programs must assess their effectiveness by evaluating changes in teacher knowledge, instructional practices, and student performance (Antoniou & Kyriakides 2013). These assessments guide future iterations of the program, ensuring continuous alignment with best practices and educational standards.
- 7. Focusing on Teacher Effectiveness and Learner Outcomes** - A key goal is to improve teacher effectiveness, which directly impacts learners' language acquisition and overall learning (Akiba & Liang, 2016). By linking professional development efforts to measurable improvements in student performance, programs can demonstrate their value and drive sustained support.

By adhering to these principles, professional development initiatives can create meaningful, lasting improvements in the education of learners while supporting teachers in meeting the challenges of diverse and dynamic learning environments.

Effective PD programs are often evaluated using frameworks that focus on measurable outcomes such as teacher knowledge, instructional practices, and student achievement. Guskey's five levels of evaluation, for instance, assess PD impact across multiple dimensions: participant reactions, learning, organizational support, application of knowledge, and student outcomes. This layered approach ensures that PD programs are not only engaging and informative but also lead to tangible improvements in teaching efficacy and student performance.

Traditional PD models for ESOL teachers include workshops, online courses, and seminars, each with distinct strengths and limitations. Workshops often provide hands-on strategies but may lack continuity and depth. Online courses offer flexibility

and access to a broad range of resources, yet they may fail to foster the same level of peer interaction as face-to-face formats. On-demand online professional development resources have been shown to impact student achievement positively (Shaha & Ellsworth, 2013). Seminars and conferences, while valuable for networking and exposure to new ideas, can sometimes be too generalized to address the specific needs of individual educators.

Increasingly, blended PD models are gaining traction, combining synchronous and asynchronous online components with in-person sessions to balance accessibility and depth. These models align well with the diverse demands of ESOL teachers, who often require practical, context-sensitive strategies for addressing linguistic and cultural diversity in their classrooms.

Research highlights significant challenges faced by teachers in online education, particularly within higher education environments. Professional isolation is a recurring theme, as educators often lack access to immediate peer support or informal learning opportunities. Limited resources and technological barriers further compound these challenges, especially in underfunded institutions.

For ESOL teachers, these difficulties are magnified by the need to adapt language-teaching methodologies to online platforms, which may not fully support interactive, communicative approaches. Additionally, teachers often face increased demands to balance instructional quality with the technical complexities of managing online learning environments. These challenges emphasize the need for PD programs specifically designed to address the realities of online education, equipping teachers with the skills and tools necessary for effective practice.

This theoretical and contextual foundation underscores the importance of designing professional development initiatives that are rooted in established theories of teacher learning while remaining adaptable to the unique challenges of online and blended educational contexts.

Design and Methodology

The professional development (PD) cycle under analysis was designed to address the specific needs of ESOL teachers working in diverse higher education contexts, including online environments. The program included a combination of self-access courses, synchronous webinars, asynchronous activities, and tasks, such as the creation of podcasts. These elements were integrated to provide a blended learning experience aimed at fostering teacher collaboration, enhancing instructional practices, and addressing the challenges unique to online education.

Two self-access courses provided participants with foundational knowledge on key topics, while the webinars served as interactive sessions for discussion, reflection, and guidance. Asynchronous activities, including contributions to collaborative tools like Padlet, allowed participants to engage at their own pace, promoting deeper reflection and exploration of concepts introduced in the webinars.

Data collection focused on capturing participant engagement and contributions throughout the PD cycle. Qualitative data were gathered from various sources, including:

- **Webinar Contributions:** Discussions, reflections, and queries shared by participants during synchronous sessions.
- **Padlet Contributions:** Posts and comments provided by participants during asynchronous activities, which highlighted their reflections, challenges, and practical applications of the concepts.
- **Discussion questions:** questions designed to foster reflection on the theoretical components and/or their application in the learning environment.
- **Submitted Tasks:** Artifacts such as lesson plans and podcasts created by participants as part of the program's requirements, offering insight into their application of new knowledge.

While the majority of the data collected were qualitative in nature, some elements, such as participation rates and task completion levels, were quantified to provide a broader understanding of engagement.

The effectiveness of the PD cycle was evaluated based on the following criteria:

- **Changes in Teaching Methods:** Evidence of shifts in instructional practices, such as the adoption of more interactive or context-sensitive approaches to teaching grammar.
- **Improvements in Student Language Acquisition:** Indirect measures, such as anecdotal feedback from participants about student progress or specific classroom outcomes resulting from new teaching strategies.
- **Increased Community Engagement:** Indicators of enhanced collaboration among participants, including the establishment of peer networks or increased willingness to share and discuss pedagogical strategies.

The combination of these criteria provided a comprehensive framework for assessing the program's impact on teacher development and its alignment with the objectives of fostering effective, context-sensitive professional learning.

By employing these methods and criteria, the study aimed to provide a nuanced understanding of the strengths and areas for improvement in the PD cycle, while also contributing valuable insights to the broader discourse on teacher development in higher education.

Results

Even though this PD program was not meant as a research project, teachers' participation was carefully recorded, which allowed the cycle organizers and the university to analyze the levels of commitment during the different components of the cycle. The quantitative analysis of participation renders the following results:

- 66 participants enrolled in the course.
- 55% of enrolled participants attended the first introductory synchronous webinar
- All participants completed one of the online courses provided on the platform, i.e. "Teaching Grammar" and "Teacher Talk Time vs. Student Talk Time".

- 29% of those enrolled in the course never took part in it.
- 25% (average) of the participants engaged in the asynchronous interactive weekly activities in the online platform.
- 80% (average) submitted the evaluation activities (group lesson plan and individual podcast)

Feedback was collected from the participants by means of surveys conducted during the cycle, which allowed organizers to make adjustments to satisfy teachers' needs and strengthen their motivation. For instance, participants required the activities to be uploaded to the platform over the weekend instead of on Monday morning, as originally planned. This change was immediately implemented and facilitated completion of tasks.

Discussion

As mentioned, this cycle consisted of different synchronous and asynchronous activities that demanded a considerable amount of time and effort on the part of the participants. Taking into account participants are busy teachers, the whole cycle was presented to them at the beginning of the course and detailed explanations on how it would be implemented were provided during the first webinar. Subsequently, activities were uploaded to the platform weekly, with a detailed description of how they were to be conducted. Each task was different, catering for this heterogeneous group of both experienced and novice teachers. Furthermore, participants were given a whole week to submit their answers or participate in the discussion forum. As previously indicated, participants were also provided with optional bibliography for those that were interested in further developing their knowledge of a certain perspective.

Following Schwartzman *et al.* (2019), the whole course was based on the following pillars:

- Technology as a territory: the whole course was designed and carried out online.
- Interactions with the content, the teachers and with colleagues that was part of the learning process.
- E-activities: the online learning activities proposed were meant as the backbone of the course and implied the practical application of theoretical concepts.
- Careful selection of content and digital resources
- Tutors as guides throughout the process

It is considered that this PD cycle addressed the specific needs of teachers in this context because of the following:

- It was meant to solve teachers' needs (how to teach grammar more effectively)
- It was designed to address teachers' challenges when teaching grammar, as discussed in the first webinar.

- It provided theoretical knowledge and practical activities on different approaches to the teaching of grammar.
- It presented different digital resources that could be implemented in their courses (e.g. Padlet, podcast recording, Wooclap, Chat GPT and others).

It is worth mentioning that even though these digital resources were meant as suggestions to be applied to their English courses at University we do not have information as regards their real implementation.

As expected, the program faced a number of challenges that were duly addressed. First of all, participants' limited time to fully develop the activities. To this end, most deadlines were extended to ensure a broader participation. Secondly, participants' limited experience as learners in the use of digital platforms, which was solved by means of detailed and guided explanations on the platform or individual help provided via personalized e-mails. Thirdly, participants' initial issues with organization, which was addressed by means of a weekly reminder on the platform summarizing the stage of the cycle they were at and the deadline they were to meet.

Teachers' enrollment in the course shows that they were highly interested in the proposal. The fact that 30% of them did not take part in the program and an even more reduced number complied with 100% of the requirements of the cycle might be ascribed to limited time in an overloaded teaching schedule. Teachers tend to be overworked and even though they might be motivated by the idea of professional development, their everyday lives discourage them from taking on other responsibilities and seeing them through.

A qualitative analysis of participation in the cycle shows that the more activities the participants engaged in, the better their performance in the overall assessment was. It was clearly observed that those who took part in the discussion forums and online tasks managed to record a podcast that showed a deeper understanding of the concepts developed during the course and a more critical reflection on their classroom practices.

Conclusions

The design and implementation of online professional development cycles for English teachers, integrating synchronous and asynchronous components, such as the one described in this paper underscores the importance of thoughtful planning and contextual awareness. This study highlights several key lessons that can inform future initiatives.

First, the collaborative design of courses with stakeholders who have direct contact with teachers ensures alignment with participants' interests and professional realities. By grounding course content in the experiences and needs of teachers, the program becomes more relevant and impactful.

Second, the combination of synchronous and asynchronous modes facilitates greater flexibility, promoting both engagement and accessibility. Synchronous sessions provide real-time interaction; fostering community and immediacy, while asynchronous elements allow participants to learn at their own pace and accommodate their busy

schedules. The option to access recordings of live sessions further supports inclusivity and sustained participation.

Third, breaking content into manageable and engaging chunks maintains motivation and retention, especially when tasks are perceived as appropriately challenging. Designing activities that leverage teachers' real-life experiences, such as contributions to collaborative platforms like Padlet or podcast production, strengthens the connection between theoretical learning and practical application.

Finally, the integration of collaborative tasks, such as the collaborative development of a lesson plan from one of the perspectives discussed during the course, group podcast projects, enhances not only participant engagement but also fosters professional networking. These tasks encourage reflection, dialogue, and mutual understanding of diverse teaching approaches, contributing to the creation of a professional learning community.

Successful implementation of such programs requires attention to logistical details, including the timing of activities in relation to the academic calendar and the coordination challenges of multi-campus collaboration. By addressing these factors, online professional development courses can achieve their dual aims of enhancing teacher competencies and improving language education outcomes.

As a potential avenue for future research, it would be valuable to incorporate a structured follow-up mechanism in the initial activity design, allowing participants to reflect on how the course content has influenced their teaching practices. This could include, for example, longitudinal feedback surveys, classroom observations, or the analysis of student work to assess pedagogical impact. At the institutional level, fostering small-scale, collaborative forums—whether in-person or virtual—could provide teachers with opportunities to share their implementation experiences, exchange insights, and collaboratively refine professional development strategies. Such an approach would not only enhance reflective practice but also promote sustained engagement and continuous improvement in teacher training initiatives.

Ultimately, the study reaffirms the need for culturally and contextually responsive course designs. By fostering inclusive and sustainable learning environments, these programs can empower English teachers to better serve their students and navigate the evolving demands of language education.

Limitations of the Study

While this study provides valuable insights into the design and implementation of a professional development (PD) cycle for ESOL teachers, several limitations should be acknowledged to contextualize its findings.

The initiative was not originally conceived as a formal research project but as a practical PD cycle aimed at supporting ESOL teachers in their professional growth. Consequently, the study lacks some of the methodological rigor typically associated with research, such as pre-defined hypotheses or experimental controls. This practical focus limits the generalizability of the findings, as they are primarily reflective of a specific institutional context.

Data collection posed significant challenges, particularly in assessing the long-term impacts of the PD cycle. The study relied on a relatively small sample size, as the participating teachers were drawn from a single university. This limited pool of participants reduces the ability to extrapolate findings to other settings or broader populations. Additionally, tracking the impact of the program on teachers' practices and student outcomes over time proved difficult due to logistical constraints and the early stages of the program's implementation.

The findings presented in this study are based on preliminary data, as the PD cycle is still in its early stages. This limits the ability to draw definitive conclusions about the program's effectiveness or its broader implications for professional development in online higher education contexts.

Further research is needed to fully understand the impact of place-based professional development programs in similar contexts. This includes longitudinal studies to monitor the sustained effects of the PD cycle on teaching practices, such as specific changes in lesson planning or instructional strategies. Additionally, more comprehensive evaluations of student outcomes would provide a clearer picture of the program's overall effectiveness.

One key limitation is the lack of detailed follow-up on how the PD cycle influenced participants' educational practices. While anecdotal evidence suggests positive changes, systematic monitoring of specific instances—such as the integration of new approaches to grammar instruction in lesson plans—remains an area for future exploration.

Acknowledging these limitations is essential for situating the findings within a realistic framework and for guiding subsequent efforts to refine and expand place-based professional development initiatives for ESOL educators.

Notes:

Final approval of the article:

Lourdes Cardozo-Gaibisso, PhD, guest editor of the special issue.

Authorship contribution:

Cristina Banfi and Analía Esquerré were responsible for project conceptualization, data collection and analysis, and bibliographical compilation.

Monica Frenzel conducted part of the research, data collection and analysis, and manuscript review. She also participated in the management and coordination of project implementation.

Availability of data:

The dataset supporting the findings of this study is not publicly available.

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Sustainable Strategies in ESOL Teacher Development: Connecting Theory, Practice, and Community

Estrategias sostenibles en el desarrollo profesional de docentes de ESOL: conectando teoría, práctica y comunidad

Estratégias sustentáveis no desenvolvimento de professores de ESOL: conectando teoria, prática e comunidade

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Abstract

This paper discusses sustainable approaches to ESOL (English to Speakers of Other Languages) teacher professional learning that effectively integrate theory, practice, and community engagement for long-term growth and positive impact. As classrooms become increasingly multilingual and diverse due to globalization and rapid technological advancements, it is essential that professional development for teachers is comprehensive, adaptable to various contexts, and deeply embedded within community ecosystems. Such an approach ensures that teachers are equipped with relevant skills and knowledge to meet evolving student needs while fostering a supportive learning environment. The paper highlights several effective strategies, including the creation of professional learning communities, mentorship programs, action research initiatives, and place-based practices. These methods help bridge the gap between research and practice by encouraging authentic, real-world classroom experiences. Additionally, the paper discusses common challenges faced when implementing sustainable teacher development, such as ideological resistance, resource limitations, and systemic barriers within educational institutions. To address these issues, the paper offers recommendations for shaping educational policies, fostering leadership development, and promoting community-driven initiatives. Overall, it emphasizes that sustainable ESOL professional learning requires ongoing collaboration and commitment from all stakeholders to create a resilient and inclusive educational ecosystem that benefits both teachers and learners in the long term.

Keywords: sustainable teacher professional development, TESOL, community engagement, multilingual classrooms, education policy.

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Resumen

Este artículo examina enfoques sostenibles para la formación profesional de docentes de ESOL (Inglés para Hablantes de Otros Idiomas), que combinan de manera efectiva la teoría, la práctica y la participación comunitaria para promover un crecimiento a largo plazo y un impacto positivo. A medida que las aulas se vuelven más multilingües y diversas debido a la globalización y los avances tecnológicos rápidos, es esencial que el desarrollo profesional sea integral, adaptable a distintos contextos y esté profundamente enraizado en los ecosistemas comunitarios. Este enfoque asegura que los docentes dispongan de las habilidades y conocimientos necesarios para responder a las necesidades cambiantes de los estudiantes, fomentando además un ambiente de aprendizaje inclusivo y solidario. El artículo propone varias estrategias efectivas, como la creación de comunidades de aprendizaje, programas de mentoría, investigaciones-acción y prácticas situadas en el entorno local. Estas metodologías ayudan a reducir la brecha entre investigación y práctica, promoviendo experiencias reales en el aula. También se abordan los desafíos comunes, como la resistencia ideológica, la limitación de recursos y las barreras estructurales en las instituciones educativas. Para enfrentar estos obstáculos, el documento ofrece recomendaciones para la formulación de políticas, el fortalecimiento del liderazgo y la promoción de iniciativas comunitarias. En definitiva, el artículo sostiene que el aprendizaje profesional sostenible en ESOL requiere colaboración constante y compromiso de todos los actores para construir un ecosistema educativo resiliente e inclusivo, en beneficio de docentes y estudiantes a largo plazo.

Palabras clave: desarrollo profesional sostenible de docentes, TESOL, participación comunitaria, aulas multilingües, política educativa.

Resumo

Este artigo examina abordagens sustentáveis para a formação profissional de professores de ESOL (Inglês para Falantes de Outras Línguas), que integram, de forma eficaz, teoria, prática e envolvimento comunitário para promover um crescimento de longo prazo e um impacto positivo. À medida que as salas de aula se tornam cada vez mais multilíngues e diversificadas devido à globalização e aos avanços tecnológicos rápidos, é fundamental que o desenvolvimento profissional dos professores seja abrangente, adaptável a diferentes contextos e profundamente enraizado nos ecossistemas comunitários. Essa abordagem garante que os professores estejam equipados com as habilidades e os conhecimentos exigidos para atender às necessidades cambiantes dos estudantes, fomentando um ambiente de aprendizagem inclusivo e solidário. O artigo apresenta várias estratégias eficazes, incluindo a formação de comunidades de aprendizagem, programas de mentoria, iniciativas de pesquisa-ação e práticas baseadas no ambiente local. Essas metodologias ajudam a reduzir a distância entre pesquisa e prática, promovendo experiências autênticas em sala de aula. Além disso, aborda os desafios comuns, como resistência ideológica, limitações de recursos e barreiras sistêmicas nas instituições de ensino. Para enfrentar esses problemas, o documento oferece recomendações para formular políticas, desenvolver lideranças e promover iniciativas comunitárias. Em suma, reforça que a aprendizagem profissional sustentável em ESOL exige colaboração contínua e compromisso de todos os envolvidos para criar um ecossistema educacional resiliente e inclusivo, beneficiando professores e alunos no longo prazo.

Palavras-chave: desenvolvimento profissional sustentável de professores, TESOL, engajamento comunitário, salas de aula multilíngues, política educacional.

Introduction

The field of Teaching English to Speakers of Other Languages (TESOL) has experienced significant transformation over recent decades. Continual change in educational contexts occurs for many reasons, including (but not limited to) increasing student language diversity in schools, rapid technology innovation, shifting policy agendas, globalization, and unexpected crises (Cardozo-Gaibisso *et al.*, 2024). These are just some of the reasons why teacher professional learning (TPL) must be ongoing and adapted to meet in-service and pre-service ESOL teachers' needs. For example, ongoing professional learning can help pre-service and in-service ESOL teachers learn more about a range of pedagogical practices (e.g., modeling, reflective inquiry) that they may not be familiar with to promote more equitable and effective practices (Fackler, 2024).

TPL (also known as professional development) extends beyond a single "one-and-done" workshop or summer training session. In this regard, this paper advocates for continuous, embedded, and community-supported learning experiences that are based on designed based models (Buxton *et al.*, 2017) that go beyond traditional methods by providing opportunities for not only knowledge and skill development, but also for reflection, community building, and systems change to help ensure their long-term sustainability. Research shows that the most effective approaches are not only rooted in sound theory to inform practice, but also adapted to meet the specific needs of the context in which they are being implemented (Allexsaht-Snider *et al.*, 2016; de Oliveira *et al.*, 2023). These approaches also emphasize collaboration, cultural responsiveness, and a deep understanding of the specific challenges and resources of the communities they serve. The focus on bridging theory and practice is also critical. Indeed, teachers need opportunities to apply sound theoretical foundations to develop authentic classroom strategies that will lead to meaningful and sustainable change. As a result, TPL is most impactful when it is informed by a strong theoretical framework and a sound approach, as described in the next section.

Approaches to ESOL Teacher Professional Learning

Emerging models for teacher professional learning (TPL) stress job-embedded growth as a continual, integrated, and sustained approach to professional development. Models like collaborative communities of practice, mentoring, online learning networks, inquiry-based practices, and peer coaching promote deep, job-embedded engagement with classroom practice in real contexts. This addresses concerns that stand-alone trainings are ineffective, while ongoing, sustained, and embedded TPL can substantially improve student achievement. To be effective, TPL should involve authentic, inquiry-based learning anchored in real classrooms, student work, and life. Additionally, it should involve active engagement, collaboration, models of effective practice, coaching and expert guidance; it should also promote feedback and reflection, and be delivered over an extended period (Vaillant & Cardozo-Gaibisso, 2017; Darling-Hammond *et al.*, 2017).

Professional learning communities (PLCs) are some of the most common job-embedded growth models. PLCs create structures for regular, ongoing teacher collaboration to support sustained, long-term learning. Collaborative PLC structures and processes provide teachers with the time and space to examine student data, co-plan instruction and interventions, and offer each other feedback, engage in reflection and problem-solving, and support goal-setting. PLCs in diverse ESOL contexts enable teachers to share ideas around culturally responsive pedagogies, co-construct curricula that address their students' linguistic and cultural needs, and work through challenges together. Peer-driven PLCs and growth models create professional networks that reduce isolation, model innovation, and develop confidence and ownership in teachers over their own practice. Collaboration and shared inquiry through observation and feedback have also been shown to improve classroom practice.

Peer coaching, mentoring, and personalized instruction also support ongoing, teacher-directed growth. Darling-Hammond *et al.* (2017) explain that personalized mentoring with an experienced coach can offer novice or struggling teachers immediate, relevant, and applicable pedagogical strategies, constructive feedback, and encouragement to help build their confidence and capacity. Mentoring can also provide a safe space to discuss more complex ideas, such as creating inclusive-multilingual classrooms, language development, content instruction, asset-based pedagogies, and equity issues that may not be addressed in traditional TPL (de Oliveira, 2023).

Action research, or the process by which teachers can examine and refine their own practice through systematic and cyclical inquiry, has also been shown to support sustainable teacher growth. Widiastari and Fithriani (2024) show how action research is an experiential process of purposeful reflection, evaluation, and implementation that allows teachers to identify and understand problems in their classroom, test interventions, and analyze results to support deeper conceptual understanding of pedagogy and a sense of agency. The cyclical nature of action research also makes it a powerful approach to contextualize, and adapt evidence-based practices to the needs of individual teachers and their students. Teachers can take research on such strategies as scaffolding, translanguaging, culturally sustaining pedagogies, and more, and adapt them for their students. Teachers can transform their understanding of students' linguistic and cultural diversity from a problem to be overcome into a resource to build upon. In practice, action research can be especially powerful when integrated into the structure of collaborative PLCs, thus helping to more tightly integrate research into practice.

Online and blended TPL models create additional structures for expanding teacher growth opportunities. Webinars, digital resources, and online learning communities allow teachers to connect with their peers and coaches beyond their immediate setting. This is particularly important for teachers in remote or resource-poor contexts. Clinical supervision, or classroom observations followed by reflection and feedback, is another ongoing and embedded growth model that links theory with practice. Blended learning formats and clinical supervision practices can create psychological safety for teachers to try new things, take risks, and be innovative. These are essential ingredients for sustainable TPL.

Teacher reflection is the core and underpinning of all of these TPL approaches and is a crucial aspect of deliberate, purposeful practice (Widiastari & Fithriani, 2024). Reflection on teaching strategies, student work, and classroom conversations

can help teachers to make more intentional, thoughtful, and research-informed decisions. Sharing reflections can further promote deliberate inquiry and deeper learning, particularly in the realm of language use and supporting students' language development (Fackler & Harman, 2025). To be more effective, reflection can involve more authentic, experiential activities, such as lesson study, case studies, and role-plays, where teachers can be immersed in real classroom problems and dilemmas. Experiential activities that simulate real practice, particularly when they involve the analysis of actual practice or video-recorded classroom activities, create cognitive disequilibrium that motivates teachers to confront and change their assumptions and try new practices.

To support reflection, psychological safety is key. Teachers need to feel safe to explore, to try new things, and to make mistakes—and to reflect on these mistakes—without being judged. Mentoring relationships and peer learning networks can foster trust and reduce anxiety in the classroom, supporting innovation in the use of translanguaging, culturally sustaining pedagogies, and multiple forms of assessment. While it is vital to learn from and support each other, trusting relationships—supported by structured observations and feedback—allow teachers to take risks in their practice. It is also important to provide teachers with the time and space to try things out and reflect on their practice, to support active, experiential learning and gradual transformation in their instruction. For all of these TPL models to be effective, they must be grounded in teachers' immediate needs, such as building language-supportive strategies like designing formative assessments for language development, integrating language objectives into content instruction, and scaffolding. In this way, teachers are learning strategies they can immediately use with their students—, reflect upon, and improve through ongoing reflection and data analysis.

Communities of Inquiry and Practice as Engines of Sustainable TPL

Building effective and sustainable TPL models can also take form as communities of practice, where teachers can learn with and from each other through inquiry, reflection, and shared experience. Communities of Inquiry and Communities of Practice are two closely related concepts that can be applied to look at these communities.

A community of inquiry (Garrison *et al.*, 1999) is a group of teachers who collaborate and inquire critically and methodically into problems, new knowledge, and a better understanding of their own teaching practice. Communities of inquiry have been shown to be highly effective in prompting teacher reflection on practice and pedagogical improvement. For example, a community of inquiry could consist of a group of teachers working with multilingual learners who ask the following questions: how to differentiate instruction for different language levels, how to scaffold language and content, how to incorporate students' home languages and cultures into the curriculum, and so on. Through these inquiries, teachers in the community can support each other in building more effective and responsive instructional practices.

Communities of practice (Wagner, 1999) in turn, are groups of teachers who share an interest in a particular theme and a set of practices, resources, routines, and artifacts of learning. Teachers in a community of practice have been found to be more likely to

visit each other's classrooms, co-develop and exchange lesson plans and materials, co-create pedagogical solutions that are locally meaningful and relevant to the students they work with, and develop a common language, a repertoire of strategies, and a broader sense of ownership over their learning.

Communities of inquiry and practice can also be supported with the use of technology. For example, digital ethnography can be used to examine and analyze interactions and activities within online learning communities to identify patterns of social, cognitive, and pedagogical engagement (Johnson, 2021). This information can, in turn, be used to design more relevant, inclusive, and scalable online professional development opportunities. In addition to professional development, webinars, asynchronous discussion forums, and social media groups could allow for interaction, resources, and joint problem-solving between teachers even in remote or isolated settings.

The essential first step in building effective communities of inquiry and practice is to build trust, common goals, and reflective communication. When teachers feel that they are welcomed and respected members of their professional communities, they are more likely to experiment with new teaching practices, such as translanguaging or culturally sustaining pedagogy, and more likely to learn from their peers' successes and failures. Additionally, being active in a professional community helps teachers feel more connected and competent, which is also important for their motivation and growth.

Communities of inquiry and practice can be built into larger systemic policies and school cultures with intentional and effective leadership. School leaders and decision-makers need to provide these communities time, space, resources, and recognition to sustain their existence and to make them an essential component of teachers' professional development journeys. In addition, by recognizing teachers' agency and expertise in these communities, school leaders can also help build a sense of ownership and collective responsibility over student success, including the success of multilingual learners.

Systemic Support and Policy Frameworks for Sustainability: Challenges and Barriers

While individual efforts, community support, and theoretical underpinnings are crucial, the sustainability of ESOL TPL is fundamentally supported by systemic and structural backing. It is imperative that policymakers and educational institutions establish and maintain an enabling environment that fosters and ingrains ongoing teacher learning as an intrinsic part of the school culture. The key lies in embedding continual TPL through strategic policy development that connects teacher growth to the overall institutional and educational goals. This requires measures such as the establishment of quality standards, dedicated funding, and the creation of leadership that not only supports but also actively promotes collaborative learning and innovation. When teacher development is recognized as a valuable investment, resources are allocated towards coaching, collaborative planning, and reflective practice sessions.

Moreover, a school culture that values feedback, data-driven decision-making, and flexibility ensures that the learning programs remain relevant and adaptable to the changing needs (Hora *et al.*, 2017). This could involve regular check-ins, data-driven

feedback sessions, and the flexibility to modify strategies as per evolving needs and circumstances. An integral part of the policy also involves addressing equity, particularly for schools in rural or underserved areas, by ensuring they have equal opportunities for access and growth. This can be achieved through equitable funding distribution, flexible scheduling, and technological support. Leadership, from school administrators to district leaders, must make the cultivation of a shared vision for continual and culturally responsive teacher growth, an imperative that aligns with a broader commitment to educational equity, their primary focus (Azano *et al.*, 2020).

Research has provided evidence to support a community of practice approach to teacher professional learning and development. However, despite the strengths of this model, there are a few significant issues and challenges to its sustainability. Teachers' beliefs and self-efficacy play a pivotal role in their professional development. A lack of confidence or negative perceptions towards change can serve as a barrier. Institutional constraints such as heavy workloads and inadequate support can also hinder teachers' efforts to engage in community-based learning (Saud & Mahara, 2024). Systemic changes are needed to prioritize teacher well-being and provide necessary resources to alleviate such burdens. Ideological and political beliefs about language, culture, and identity can also create resistance, particularly in contexts where language-in-education policies promote monolingual norms or colonial ideologies.

Adapting Strategies: The Role of Place-Based Professional Development for Lasting Impact

Urban schools are characterized by their diversity, high mobility, and often by resource constraints. Teachers in these contexts need TPL to support differentiated instruction, intercultural competence, and community partnership. Supportive practices for these settings should account for the linguistic and cultural diversity of the student body. This might include TPL on supporting English language learners or differentiating instruction, as well as managing large, dynamic classroom environments. Workshops on culturally responsive teaching, trauma-informed practices, and conflict resolution; classroom coaching on differentiating instruction and creating classroom routines; and opportunities to forge community partnerships would be highly useful. Emphasizing resilience and resourcefulness in the face of overcrowding and resource shortages would be key (Darling-Hammond *et al.*, 2017).

In rural and remote contexts, geographic isolation, limited access to traditional TPL models, and infrastructure (e.g. poor internet access) all limit teacher engagement and capacity building. Online TPL modules, virtual coaching, and online communities of practice can link rural teachers to broader professional networks and resources.

While these are just a few context-specific examples, several general principles across different contexts emerge that can inform the success of contextually relevant TPL. These strategies should first begin by being adaptive and responsive to local needs. A needs assessment can be an important first step in each context or community. Gathering data through surveys, classroom observations, stakeholder interviews, and town halls can help to inform a relevant, contextualized program. Another principle is implementation flexibility: teachers should have a choice in topics, and flexibility to engage with TPL in multiple formats (workshops, online modules, coaching) and

on short- and long-term timelines. Formative assessment and feedback are also important. When integrated with TPL activities, these processes enable teachers to self-reflect and course-correct. Responsive strategies that evolve over time are also more likely to remain well aligned with the local context.

Building place-based TPL that engages with specific contexts should also leverage cultural assets to foster local ownership. Including local histories, languages, Indigenous knowledge, cultural practices, and community resources into TPL materials and resources makes learning more relevant for teachers and students (Coady *et al.*, 2023). When teachers bring local stories, languages, and resources into their pedagogy, they also create classroom environments that affirm students' identities. This approach is related to place-based education, a framework that centers teaching and learning rooted in community social, cultural, economic, and historical dynamics (Gruenewald & Smith, 2014).

Engaged communities are another authentic strategy to deepen cultural relevance and build trusting relationships. Local partners, community organizations, elders, students, and families can be integral to deepening TPL for teachers. Engaged communities can help teachers unpack local histories, build community relationships, and learn about cultural practices. These relationships position classrooms as sites of cultural sustainability and authenticity, which can, in turn, engage students.

Place-based TPL will be most effective and long-term when systemic supports are in place. Schools and districts must allocate time and resources to make community engagement as a clear priority. Flexible support structures must be in place to allow teachers to regularly reflect on and build community engagement. Local teacher leaders can serve as local guides and mentors to their peers, weaving community relevance into ongoing teacher learning. Teachers who view community engagement as part of their professional role and identity are also more likely to incorporate these practices. Integrating long-term, reflective community engagement into TPL structures will also ensure professional resilience and cultural sustainability.

Place-based TPL may be particularly useful for teachers in multilingual and multicultural classrooms. By forging local impact and deepening community partnerships, it can build a flexible, organic pedagogical environment that has the capacity to evolve. To sustain this over the long term, systemic policies and shifts are needed to institutionalize long-term community engagement. When TPL helps teachers bring in local cultural assets, traditional knowledge, and community histories, these teachers can create highly relevant and affirming pedagogies. In these spaces, students can see their own identities and experiences reflected in the classroom and engage deeply and over the long term. Long-term impact in TPL will be achieved when we begin to mainstream these place-based approaches. We should work to shift them from the margins to a central part of TPL practice, and in doing so, shape the way teachers learn for generations to come.

Fostering Sustainable TPL: Policy, Community Support, and Flexibility

Long-term TPL requires a system-level approach that integrates evaluation, reflection, community, adaptability, and policy support into the fabric of teaching practice —

not just effective program design, but the deliberate development of structures for evaluation and reflection, the creation of spaces and opportunities for both, and the encouragement of adaptive practice in changing environments. Support through policy and community creates a foundation and reinforces this infrastructure, which, when in place, can take TPL from one-off activities to a sustainable cycle that truly improves teaching and learning.

Systematic Evaluation and Reflective Practice

The foundation of sustainable TPL is a robust system of evaluation. Programs must be designed around clear, measurable goals that tie directly to teacher effectiveness and student achievement. Such goals might include improvements in classroom management, specific pedagogical strategies like translanguaging, or cultural responsiveness. Tools such as teacher portfolios, classroom observations, student performance data, and community feedback sessions serve as vital instruments for monitoring progress. These assessments help identify strengths and areas for growth while fostering transparency and accountability. When administrators and teachers regularly review these measures, they cultivate a school culture where continuous improvement is valued over static compliance, reinforcing the habit of ongoing learning and adaptation.

In addition, reflexivity plays a crucial role. Teachers should be encouraged to analyze their practice critically, learning from both successes and setbacks. Reflective practices, embedded through scheduled reflection sessions, journals, collaborative inquiry projects, and peer discussions—transform professional learning into an ongoing cycle rather than a one-time event. As Darling-Hammond *et al.* (2017) emphasize, embedding reflection into routines helps teachers develop a growth mindset and self-awareness, which are vital for sustained change. When reflection routines become institutionalized, they foster a culture of inquiry where teachers are continuously refining their practices, aligning with community needs and research insights.

Flexibility and Adaptability

Flexibility is important in multilingual and multicultural contexts, which can be changeable and often have unpredictable elements. TPL programs should be flexible enough to allow teachers and schools to adjust their aims, activities, and the distribution of resources as needed, according to what they learn during implementation. Such an iterative and responsive approach to program development recognizes that different contexts often require different approaches and that an initial set of activities and goals may become inappropriate as community needs and circumstances change, or new issues emerge. Flexibility also allows space for local innovations and adaptations to ensure continued relevance, cultural fit, and longer-term sustainability. Professional development should thus be seen as a process rather than an event.

In terms of policy, flexibility is reinforced when programs allow teachers to tailor their own development rather than mandating specific approaches or actions — for example, by allowing them to select their own topics for study, choose from different

formats (including workshops, webinars, self-guided online courses, and coaching), and focus on classroom problems that are most urgent to them.

Policy, Advocacy, and Institutional Support

Sustainable TPL is anchored by policies that endorse ongoing learning and community participation. Governments and educational authorities play a pivotal role by creating conducive environments through policy reforms, funding, and strategic leadership. Darling-Hammond *et al.* (2017) argue that policies should explicitly recognize continuous professional learning as a core component of school improvement, mandating standards that emphasize equity, cultural responsiveness, and collaboration. These policies can institutionalize practices like protected planning time, collaborative inquiry, and recognition of culturally sustaining pedagogy, thus shifting organizational norms.

Leadership at all levels, district, school, and national, must model reflective, community-engaged practices. Leaders who prioritize teacher agency, advocate for resource equity, and foster transparent decision-making create climates where innovation thrives. Moreover, embedding systematic evaluation processes ensures ongoing reflection and improvement, where data collection, from classroom observations and teacher feedback to student achievement metrics and community input—provides concrete evidence to refine programs (Saud & Mahara, 2024). These insights should guide strategic adjustments, promoting adaptability to changing community needs and policy environments.

Building Local Leadership and Community Involvement

Capacity building and the development of local leadership are key principles for sustainability. Teachers who act as mentors, community leaders, and advocates are embedded within and connected to the communities in which they work. When teachers are empowered to take leadership roles—whether in the realm of community engagement, linguistically responsive practices, or culturally sustaining pedagogy—programs are more likely to be relevant, appropriate, and accepted, as well as sustained over time. This decentralization allows schools and teachers to function more as living ecosystems, where professional development and community outreach are mutually reinforcing.

Community partnerships built on reciprocity, cultural humility, and shared objectives can also strengthen the sustainability of our efforts. When families, community organizations, elders, and students play active roles in curriculum development, school events, and decision-making, schooling becomes truly woven into the social and cultural fabric of the community. These partnerships and alliances make classroom practices more relevant and affirming for students and can help teachers see and leverage local funds of knowledge, histories, and languages. This kind of place-based approach can be beneficial in terms of linguistic justice and cultural sustainability. Recognizing and acting upon the ways in which schools and teachers can be active members of, and advocates for, their communities helps to root and sustain such initiatives.

Scaling and Institutionalizing for Long-Term Impact

For effective practices to have a lasting impact, they must be scaled thoughtfully and institutionalized within the school system. This involves creating policies that support the regular integration of community engagement, cultural responsiveness, and continuous learning into the routines of schools. Such policies could include mandates for dedicated collaborative time, ongoing capacity building for teacher leaders, and frameworks for reflective practice that are adaptable across diverse contexts.

Scaling should preserve the core principles of the program, such as fostering community, equity, and collaboration, while allowing room for local adaptation. When these practices transition from pilot projects or marginal initiatives into standard operating procedures, they become part of the organizational culture, reinforced by standards and incentives such as recognition programs, grants, and accountability measures. Institutionalization enables these practices to withstand shifts in leadership, policy, and funding, embedding a culture of lifelong, community-centered learning that sustains itself over generations.

Addressing Barriers to Sustainability

Ideological resistance presents another set of challenges to the sustainability of systemic and community-rooted TPL efforts. These include resistance based on ideological beliefs, such as monolingual language policies, colonial language ideologies, or fears about linguistic assimilation. Advocacy, community action, and consciousness-raising efforts that promote linguistic justice, equity, and the rights of multilingual learners are critical to overcoming ideological barriers. Teachers need to work together to create a community-based advocacy network to combat the harmful effects of these ideologies and to create a more inclusive and equitable learning environment for all students.

Institutional barriers, such as heavy workloads, limited protected time for planning, and lack of administrative support—also undermine the capacity for ongoing growth (Saud & Mahara, 2024). Advocating for protected time for lesson planning, smaller class sizes, and administrative support and mentoring are critical ways to create a more sustainable culture of professional learning. Policy reforms need to prioritize these supports for teachers to ensure that they have the resources they need to be successful in their work. Resistance to ideological barriers must be addressed through ongoing advocacy and grassroots organizing that challenge these harmful beliefs and promote a more just and equitable education system.

The third set of challenges to systemic sustainability includes resource constraints in underfunded or rural school districts. Technology presents potential opportunities for TPL to reach more teachers and communities (online modules, virtual coaching, digital communities), but its potential may be limited by the lack of access to technology infrastructure, devices, and connectivity. Public-private partnerships, grant funding, community fundraising, and state investments in technology infrastructure are potential solutions that can help address these inequities. Digital tools need to be designed and implemented in a way that supports equitable and scalable TPL initiatives. Without intentional efforts to bridge these resource gaps, some teachers and students may be Left behind.

The last and perhaps the most intractable set of sustainability challenges include systemic inequalities in access to resources, leadership capacity, and policy priorities. Persistent advocacy and systemic reform efforts are needed to address these larger structural issues. Building local leadership and empowering teachers as community advocates can create sustainable momentum for change from within the system. When teachers become leaders within their schools and communities, they help to sustain culturally responsive practices over the long term and foster a shared sense of ownership among stakeholders. Cultivating a culture of collaboration and shared responsibility helps prevent fragmentation and burnout, ensuring that successful practices can adapt and evolve in response to changing social, political, and educational contexts.

Conclusion

The way in which we approach TPL plays a crucial role in fostering culturally responsive and contextually relevant teaching practices. However, their broader impact and sustainability depend on effective mechanisms for scaling and replication across diverse educational settings, when appropriate, and adapting when necessary. Although it can be argued that the issues discussed in this paper should be incorporated into initial teacher education, the evidence shows that this is not the case in most contexts. In this regard then, it becomes essential for school districts, coordinators, or administration, to ensure these students receive a high-quality education. Collaborative partnerships between universities and schools, along with professional development models for teachers, can serve as effective approaches to address this complex situation and enhance the ESOL learning experiences of many students. (Cardozo-Gaibisso *et al.* 2018).

Scaling effective models involves capturing these fundamental principles and developing adaptable frameworks that respect the unique cultural, social, and infrastructural contexts of different communities. Such frameworks should be designed to promote fidelity to core values while granting local educators and communities the autonomy to tailor practices in ways that resonate with their specific needs and circumstances. Policymakers and educational leaders should foster the creation of professional networks, facilitate the sharing of best practices, and develop comprehensive resource repositories. These efforts will help disseminate successful models, promote peer learning, and foster innovation across regions. Expanding TPL opportunities through train-the-trainer models, online sharing platforms, and targeted policy incentives can further support equitable access to quality resources and training, thus enhancing the scalability of promising practices.

Furthermore, embedding these practices within the institutional fabric of educational systems, such as integrating culturally responsive pedagogy into teacher evaluation systems, curriculum standards, and accreditation processes, ensures their longevity and systemic integration. Policies that incentivize local leadership, foster collaborative inquiry, and encourage community partnerships can create ecosystems where educational innovations spread organically and sustain over time. Building capacity at the local level is critical; when practices are owned, adapted, and refined by local educators and communities, they are more likely to be sustained beyond initial pilot phases, funding cycles, or leadership changes. Continuous research, formative

evaluation, and feedback mechanisms are vital in refining these models and ensuring their relevance and efficacy across varied contexts.

In the face of today's increasingly multilingual and multicultural classrooms, the development of sustainable, context-relevant approaches to ESOL teacher professional development is paramount (Cardozo- Gaibisso *et al.*, 2022). When grounded in reputable theoretical frameworks, strategies such as place-based professional learning, community engagement, translanguaging, reflective inquiry, and culturally responsive pedagogy serve as foundational pillars for long-term systemic change. These approaches empower teachers as agents of social justice, advocates for cultural equity, and lifelong learners dedicated to their students' success. They foster an environment where teachers can critically reflect on their practice, collaborate with colleagues, and adapt to the evolving needs of diverse student populations (Harman & Cardozo-Gaibisso, 2019).

Nevertheless, significant challenges remain, ranging from ideological resistance rooted in language and cultural politics, to resource limitations and systemic barriers that inhibit sustained growth. Addressing these obstacles requires persistent advocacy, systemic reform, and community-driven initiatives aimed at dismantling oppressive narratives and promoting broader social justice agendas. Long-term sustainability depends on collective ownership among educators, policymakers, and communities, as well as on ongoing evaluation and adaptive frameworks that respond to shifting contexts. Embedding culturally responsive pedagogies and community partnerships within the fabric of school and district policies is essential to foster resilient and equitable ESOL teaching environments.

Ultimately, achieving sustainable TPL for ESOL educators is both an ethical and an educational imperative. It requires a comprehensive approach that values and supports learners' linguistic and cultural identities while promoting systemic reforms that uphold community ownership, systemic support, and culturally responsive pedagogies.

Notes:

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