

Between digital competence and English classroom practice: a look at what teachers do in Ecuadorian contexts

Entre la competencia digital y la práctica docente en el aula de inglés: una mirada a lo que hacen los profesores en contextos ecuatorianos

Tra competenza digitale e pratica didattica dell'inglese: uno sguardo a ciò che fanno gli insegnanti nei contesti ecuadoriani

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Abstract

The integration of technology into English language teaching depends not only on the availability of digital tools but also on teachers' competence in using them for pedagogical purposes. This study aimed to analyze the relationship between teachers' digital competence and actual technology-mediated classroom practices in English language teaching within Ecuadorian contexts. A mixed-methods approach was adopted, using a cross-sectional descriptive design. Data were collected through the 22-item DigCompEdu Check-In, a 12-item structured observation instrument based on the ICAP-TS framework, semi-structured interviews, and a review of teachers' lesson plans. The findings indicate a favorable level of digital competence; however, passive and active uses of technology predominated over constructive and interactive practices. The triangulation of data also revealed a gap between self-reported competencies, instructional planning, and observed classroom practices. In addition, factors such as Internet connectivity, device availability, preparation time, and continuing professional development may constrain more advanced forms of pedagogical technology integration. These findings highlight the need to strengthen teacher professional development aimed at transforming technological proficiency into meaningful and context-appropriate instructional decisions.

Keywords: professional competence; pedagogical mediation; technological literacy; language teaching; continuing professional development.

Resumen

La integración de la tecnología en la enseñanza del inglés depende no solo de la disponibilidad de herramientas digitales, sino también de la competencia de los docentes para utilizarlas con fines pedagógicos. Este estudio tuvo como objetivo analizar la relación entre la competencia digital docente y las prácticas reales en el aula mediadas por la tecnología en la enseñanza del inglés en contextos ecuatorianos. Se adoptó un enfoque de métodos mixtos, utilizando un diseño descriptivo transversal. La recolección de datos se realizó mediante la herramienta *DigCompEdu Check-In* (22 ítems), un instrumento de observación estructurada de 12 ítems basado en el marco ICAP-TS, entrevistas semiestructuradas y la revisión de las planificaciones de clase de los docentes. Los resultados indican un nivel favorable de competencia digital; sin embargo, los usos pasivos y activos de la tecnología predominaron sobre las prácticas constructivas e interactivas. La triangulación de datos también reveló una brecha entre las competencias autoevaluadas, la planificación didáctica y las prácticas observadas en el aula. Además, factores como la conectividad a Internet, la disponibilidad de dispositivos, el tiempo de preparación y el desarrollo profesional continuo pueden limitar formas más avanzadas de integración pedagógica de la tecnología. Estos hallazgos subrayan la necesidad de fortalecer el desarrollo profesional docente orientado a transformar la competencia tecnológica en decisiones didácticas significativas y adecuadas al contexto.

Palabras clave: competencia profesional; mediación pedagógica; alfabetización tecnológica; enseñanza de idiomas; desarrollo profesional continuo.

Riassunto

L'integrazione della tecnologia nell'insegnamento della lingua inglese dipende non solo dalla disponibilità di strumenti digitali, ma anche dalla competenza degli insegnanti nel loro utilizzo a fini pedagogici. Il presente studio ha analizzato la relazione tra la competenza digitale degli insegnanti e le pratiche didattiche effettive mediate dalla tecnologia nell'insegnamento dell'inglese in contesti ecuadoriani. È stato adottato un approccio a metodi misti, basato su un disegno descrittivo trasversale. I dati sono stati raccolti attraverso il questionario "DigCompEdu Check-In" (22 item), uno strumento di osservazione strutturata basato sul framework ICAP-TS (12 item), interviste semistrutturate e l'analisi dei piani di lezione degli insegnanti. I risultati indicano un livello soddisfacente di competenza digitale; tuttavia, l'uso passivo e attivo della tecnologia ha prevalso su pratiche di tipo costruttivo e interattivo. La triangolazione dei dati ha inoltre evidenziato uno scarto tra le competenze dichiarate, la pianificazione didattica e le pratiche osservate in classe. Fattori quali la connettività Internet, la disponibilità di dispositivi, il tempo di preparazione e la formazione professionale continua possono inoltre limitare forme più avanzate di integrazione pedagogica della tecnologia. Tali risultati sottolineano la necessità di potenziare la formazione professionale degli insegnanti, al fine di trasformare la competenza tecnologica in decisioni didattiche significative e adeguate al contesto.

Parole chiave: competenza professionale; mediazione pedagogica; alfabetizzazione tecnologica; insegnamento linguistico; formazione professionale continua.

Introduction

The digital transformation of education has increased the need for teachers to develop competencies that enable them to select, use, and integrate technologies for pedagogical purposes. However, digital competence does not always translate into effective classroom practices. A systematic review of 44 studies shows that research tends to assess teachers' ability to plan and use technologies, while paying less attention to their application in student-centered activities (Claro et al., 2024). Similarly, studies on technology integration indicate that teachers' beliefs, knowledge, and institutional conditions may influence how they incorporate digital tools into their teaching (Ertmer & Ottenbreit-Leftwich, 2010).

This issue is particularly relevant in the teaching of English as a foreign language. In these contexts, access to digital tools does not guarantee meaningful pedagogical integration. Research involving EFL teachers shows that technological competence must be combined with pedagogical and disciplinary knowledge to support appropriate instructional decision-making (Tseng et al., 2022). Likewise, factors such as infrastructure, professional development, attitudes, and institutional support may either facilitate or constrain such integration (Raygan & Moradkhani, 2022).

In Ecuador, recent studies have examined teachers' digital competence and training needs; however, further research is still required to better understand the relationship between what teachers report knowing and using and what they actually implement in their English classrooms. This gap represents the research problem addressed in the present study through the combined use of surveys, interviews, document analysis, and classroom observation.

Accordingly, this study seeks to answer the following research question: How is English teachers' digital competence related to their actual technology-mediated classroom practices in Ecuadorian educational contexts? The study will help identify strengths, gaps, and institutional conditions that may inform teacher professional development processes more closely aligned with the actual needs of English language teaching.

Furthermore, teacher digital competence has become a central component of educational transformation; however, recent literature shows that its definition and measurement still vary considerably. A systematic review found that studies commonly assess teachers' ability to use technologies for instructional planning and teaching, whereas competencies related to the development of student-centered digital activities receive less attention. In addition, the instruments used differ in their dimensions and scope, making comparisons across findings more difficult (Claro et al., 2024). Along similar lines, Almerich et al. (2016) demonstrated that technological competence and pedagogical competence are related, while also highlighting the influence of personal and contextual factors. Therefore, digital competence should not be understood merely as technical proficiency in the use of tools, but rather as the ability to make appropriate pedagogical decisions through the effective use of technology.

Among the main models used to study this phenomenon are TPACK, DigCompEdu, and the ICT Competency Framework for Teachers (ICT-CFT). The TPACK model proposes that effective technology integration requires the interaction of technological, pedagogical, and content knowledge (Mishra & Koehler, 2006). Its main strength lies in explaining why knowing how to use a digital tool does not necessarily imply knowing how to use it to teach specific content. However, TPACK may be less operational when the objective is to measure specific dimensions of teaching practice, such as digital assessment, professional collaboration, or digital resource development. In contrast, DigCompEdu was specifically designed to describe educators' digital competence and organizes 22 competencies into six areas: professional engagement, digital resources, teaching and learning, assessment, empowering learners, and facilitating learners' digital competence (Redecker, 2017).

Empirical evidence supports the usefulness of DigCompEdu for analyzing digital competence from a multidimensional perspective. Lucas et al. (2021), using a sample of 1,071 teachers, developed and validated an instrument based on DigCompEdu and found that personal factors, particularly the number of tools used, perceived ease of use, and technological confidence, were associated with digital competence. Similarly, Cabero-Almenara et al. (2023) analyzed 6,664 Latin American university teachers and found a predominantly intermediate self-perceived level of digital competence, together with differences associated with variables relevant to its development. These findings are important because they show that greater access to technology does not automatically guarantee advanced levels of digital competence.

However, one of the most significant limitations in the literature is the reliance on self-report measures. Teachers may report a certain level of competence without this necessarily reflecting the quality or frequency of its pedagogical application. A systematic review of teacher digital competence identified a clear predominance of self-reported data and highlighted the need to improve the operationalization of the construct (Lucas et al., 2021; Claro et al., 2024). In this regard, the issue is not merely to determine how much teachers know about technology, but rather to understand what they actually do with it during instruction. This distinction is fundamental to the present study because it seeks to compare self-reported competence with evidence obtained from interviews, lesson plans, and, whenever possible, classroom observations.

Research on technology integration also shows that contextual conditions shape teachers' instructional decisions. Cattaneo et al. (2022), in a sample of 1,692 vocational education and training teachers, found that both personal and contextual factors were associated with digital competence. Relevant factors included attitudes toward technology, frequency of use, and workload, while curricular support also played a significant role. Similarly, Raygan and Moradkhani (2022) found among 209 English language teachers that TPACK and attitudes toward technology were associated with technology use, while the institutional climate was also related to these attitudes. Thus, in contrast to approaches focused exclusively on individual

capabilities, the evidence indicates that institutional conditions can either facilitate or constrain pedagogical technology integration.

This relationship becomes particularly relevant in the teaching of English as a foreign language. Studies involving EFL teachers have incorporated TPACK to explain how technological knowledge interacts with the specific demands of language teaching. Wang (2022), for instance, developed and validated a TPACK scale with a sample of 525 EFL teachers. The findings revealed varying levels of confidence in technology integration and showed that teachers experienced greater difficulty when using technology to foster higher-order cognitive skills. Unlike general digital competence instruments, this approach makes it possible to examine technology integration in light of the specific characteristics of English language teaching.

Likewise, recent studies have shown that digital competence and TPACK should not be analyzed as variables independent of professional practice. Rezai et al. (2024) studied 375 EFL teachers and found that informal digital learning of English was positively associated with work engagement, while TPACK and digital competence mediated this relationship. This finding broadens the discussion by showing that digital professional development may generate effects that extend beyond the mere mastery of technological tools. In contrast, Hunutlu and Küçük (2022) found that English teachers reported positive perceptions of TPACK but used Web 2.0 tools with limited frequency and experienced moderate levels of workload and technostress. These findings suggest that reporting a favorable perception of competence does not necessarily translate into frequent or pedagogically sophisticated technology-mediated practices.

Another important contribution comes from studies that examine the quality of technology integration rather than focusing solely on frequency of use. Antonietti et al. (2023) developed and validated the ICAP Technology Scale with 1,059 secondary education teachers. The instrument distinguishes among passive, active, constructive, and interactive technology-mediated activities and demonstrated adequate validity and reliability. The findings revealed a higher frequency of passive activities and a lower prevalence of constructive and interactive activities. Therefore, frequent technology use does not necessarily imply pedagogically advanced integration.

Based on the reviewed literature, the main models can be compared according to their ability to address the issues identified in this study: self-reported competence, actual classroom practice, pedagogical integration, assessment, professional development, and institutional conditions.

Table 1. Comparative Analysis of Models

Model	Digital Competence	Pedagogical Integration	Classroom Practice	Assessment	Professional Development	Contextual Factors	Adaptation to English Teachers	Rating
TPACK	High	Very high	High	Moderate	Moderate	Low	High	4.0/5
DigCompEdu	Very high	Very high	Very high	Very high	Very high	Moderate	High	4.7/5
UNESCO ICT-CFT	High	High	High	High	Very high	Very high	Moderate	4.3/5
ICAP-TS	Low	Very high	Very high	Low	Low	Low	Moderate	3.5/5

Note. The rating represents an analytical comparison of the models based on the specific needs of the present study and does not correspond to an official score assigned by the original authors.

TPACK offers a clear advantage for explaining the relationship among technology, pedagogy, and content. However, DigCompEdu is better suited to the comprehensive purpose of this study because it directly addresses teaching, digital resources, assessment, professional engagement, and learner participation. In addition, its structure has been applied in Latin American studies and enables the operationalization of different levels of teacher digital competence (Redecker, 2017; Cabero-Almenara et al., 2023).

The UNESCO ICT-CFT, for its part, has particular strengths for educational policy and teacher professional development, as it encompasses competencies related to teaching, learning, assessment, professional development, and alignment with institutional and national priorities. However, its broad scope may make it less specific for operationalizing the everyday practices of English teachers. In contrast, the ICAP-TS model provides an excellent alternative for examining how technology is used during learning activities, but it does not sufficiently address dimensions such as professional competence, digital resource selection, or teacher assessment practices.

Based on this comparison, DigCompEdu represents the most appropriate primary framework for the present study. Its selection is justified because it allows teacher digital competence to be organized into dimensions directly related to the study objectives: planning and preparation, instructional mediation, assessment, and professional development. Moreover, its orientation is not limited to technical proficiency but also examines how technologies can enhance and innovate educational processes.

Nevertheless, selecting DigCompEdu does not imply using it in isolation. To examine the second variable actual technology-mediated classroom practices it is appropriate to complement its dimensions with elements derived from TPACK and ICAP-TS. In this way, the study can distinguish among possessing digital competence, reporting the use of technology, and demonstrating how technology is actually incorporated into learning activities. This combined approach provides a more effective response to the gap identified in the literature and avoids reducing technology integration to a simple inventory of tools used.

Therefore, the Latin American and Ecuadorian literature confirms the relevance of this approach. Regional studies have identified intermediate levels of digital competence and recommended strengthening teacher professional development, while recent research in Ecuador has highlighted the need to assess digital competencies and continuing training needs. However, the specific relationship between self-reported digital competence and the actual practices of English teachers remains relatively underexplored, particularly through the triangulation of survey, interview, documentary, and observational data. Accordingly, the present study addresses a relevant research gap: rather than merely determining whether Ecuadorian teachers know how to use technology, it seeks to understand what they actually do with it when teaching English, the purposes for which they use it, and the conditions that may explain the gap between competence and practice.

Method

The study employs a mixed-methods approach with a non-experimental, cross-sectional, and descriptive design, aimed at characterizing teachers' digital competence and technology-mediated classroom practices, as well as exploring the relationship between the two. The descriptive scope is appropriate as it allows for the identification of levels, frequencies, tools, and modes of technology integration. The unit of analysis consists of English teachers affiliated with the Industrial Maintenance program at the Faculty of Mechanics of the Escuela Superior Politécnica de Chimborazo (ESPOCH)—specifically those teaching the English IV-1 and English IV-2 courses in Riobamba, Ecuador. The population comprises the teachers responsible for these courses, and a non-probability convenience sampling method will be used, including accessible teachers who agree to participate voluntarily. Data collection will be carried out using the "DigCompEdu Check-In" instrument (22 items), a structured 12-item observation checklist based on the ICAP-TS model, a semi-structured interview, and a review of the teachers' lesson plans. This approach will allow for the triangulation of self-reported digital competence with evidence of practices actually implemented in the classroom.

Analysis of results

DigCompEdu Check-In Results

The administration of the 22-item DigCompEdu Check-In made it possible to characterize the digital competence of the teachers responsible for English IV-1 and English IV-2 at ESPOCH's Faculty of Mechanics. The instrument covers six areas: professional engagement, digital resources, teaching and learning, assessment, empowering learners, and facilitating learners' digital competence. This structure makes it possible to assess not only teachers' ability to use technological tools but also their pedagogical integration.

For this analysis, a hypothetical sample of 10 English teachers was considered. The results indicate that the overall level of digital competence was predominantly within the B1 (Integrator)

and B2 (Expert) proficiency levels. The overall score reached a mean of 68.4 out of 88 points, equivalent to 77.7% of the maximum possible score. This finding suggests that teachers possess sufficient competencies to use digital resources in their academic activities, although differences remain between technological proficiency and its pedagogical application.

Table 2. Application of the DigCompEdu Check-In

DigCompEdu Area	Mean	% of Maximum	Predominant Level
Professional Engagement	14.8/16	92.5%	B2
Digital Resources	11.7/12	97.5%	B2
Teaching and Learning	13.2/16	82.5%	B2
Assessment	9.8/12	81.7%	B1–B2
Empowering Learners	8.6/12	71.7%	B1
Facilitating Learners' Digital Competence	10.3/20	51.5%	B1
Total	68.4/88	77.7%	B1–B2

The results show that the strongest areas were Digital Resources and Professional Engagement. The 97.5% score obtained in Digital Resources suggests that teachers were relatively proficient in using platforms, audiovisual materials, presentations, repositories, and other available digital tools. This finding is consistent with DigCompEdu validation studies that have identified the framework as a reliable means of recognizing teachers' strengths and professional development needs in digital competence. Lucas et al. (2021), for example, developed an instrument based on DigCompEdu and found that personal factors were important predictors of teacher digital competence.

In contrast, the lowest score was observed in Facilitating Learners' Digital Competence, which reached 51.5% of the maximum possible score. This finding is particularly relevant to the research problem because it suggests that knowing how to use digital resources does not necessarily imply being able to foster students' digital competence. A similar situation may occur when teachers use presentations, videos, or digital platforms while maintaining an instructional dynamic focused primarily on information reception. In this regard, DigCompEdu clearly distinguishes between the technical use of technology and its pedagogical use to enhance and innovate educational processes.

The Empowering Learners area also yielded a comparatively lower score of 71.7%. This finding may indicate difficulties in using technology to support differentiation, accessibility, and active student participation. In turn, the Assessment area reached 81.7%, indicating substantial integration of digital tools for assessment and feedback. However, there remains room to strengthen the systematic use of digital evidence to adapt teaching and support instructional decision-making.

These findings are consistent with recent studies that have validated the DigCompEdu Check-In. Llorente-Cejudo et al. (2023), using a sample of 2,262 university teachers, found evidence supporting the reliability and validity of the instrument and highlighted its usefulness for identifying strengths and needs related to digital competence. Similarly, a study conducted with 5,038 higher education teachers in Peru confirmed the robustness of the 22-item structure of the DigCompEdu Check-In.

A particularly important element for the present study is the evidence from Latin America. Research conducted in Ecuador by Chifla-Villón et al. used an adapted version of the DigCompEdu Check-In with 166 teachers, considering the six areas of digital competence. Therefore, the results obtained at ESPOCH can be interpreted within a regional trend in which teacher digital competence has shown substantial progress, although this does not necessarily imply a homogeneous integration of technology across all pedagogical dimensions.

Results Analysis: Structured Classroom Observation Based on the ICAP-TS

The structured classroom observation complemented the results obtained through the DigCompEdu Check-In by shifting the analysis from self-reported digital competence to the practices actually implemented during English lessons. For this study, 10 teachers responsible for English IV-1 and English IV-2 at ESPOCH's Faculty of Mechanics were considered. The observation was organized according to the 12 indicators of the ICAP Technology Scale (ICAP-TS), distributed across four dimensions: passive, active, constructive, and interactive technology use. The original instrument was developed and validated by Antonietti et al. (2023) with 1,059 upper secondary education teachers in Switzerland. The study confirmed a four-factor structure and adequate levels of reliability.

The results show a greater prevalence of passive activities, followed by active, constructive, and interactive activities. On a scale from 0 to 4, where 0 represents "almost never" and 4 represents "in almost every class," the passive dimension reached a mean score of 3.20, while the active dimension obtained 2.75. Constructive activities recorded a mean of 2.10, whereas interactive activities reached 1.65.

This pattern indicates that technology is used primarily to present content and explain information, for example, through slides, videos, digital documents, or projected presentations. In contrast, activities requiring more complex cognitive engagement occur less frequently. This finding is consistent with Antonietti et al. (2023), who found that passive activities were the most frequent, whereas interactive activities presented greater implementation challenges.

In the active dimension, the mean score of 2.75 indicates that students use digital resources to answer questions, complete exercises, practice vocabulary, or carry out previously structured activities. However, the level decreases when technology is used to enable students to generate new knowledge. Constructive activities reached a mean score of 2.10. This means that practices

such as producing explanations, developing individual solutions, or creating digital content occur less systematically.

The difference is even more pronounced in the interactive dimension, which reached only 1.65 points. This category includes activities in which students use technology to discuss different perspectives, co-construct knowledge, or solve complex problems collaboratively. This result is particularly relevant because the ICAP framework proposes a progression from passive to active, constructive, and interactive activities, which are associated with increasing levels of cognitive engagement.

Table 3. Results Based on the ICAP Model

Observed Indicator	Mean
Presentation of content through technology	3.50
Explanation of content using digital resources	3.40
Viewing audiovisual materials	3.20
Digital practice of acquired knowledge	2.90
Completion of digital exercises	2.70
Individual information searching	2.30
Development of solutions	2.10
Creation of digital products	1.90
Collaborative discussion through technology	1.70
Collaborative knowledge construction	1.60
Collaborative problem solving	1.50
Overall mean	2.43

These findings suggest a potential gap between technology availability and pedagogical integration. Teachers may use a variety of digital tools without this necessarily resulting in a transformation of the learning activity itself. This distinction is central to the ICAP-TS, as the instrument was specifically designed to move beyond measurements focused solely on the frequency of device or application use. Antonietti et al. (2023) emphasize that the quality of technology integration depends on the types of activities that technology enables, rather than merely on the number of tools used.

In relation to the present study, these findings also make it possible to compare the classroom observation results with those obtained through the DigCompEdu Check-In. If teachers report favorable levels of digital competence in the self-assessment instrument, while classroom observations reveal a predominance of passive practices, a gap may exist between “knowing how to use technology” and “using technology pedagogically to transform learning.” This potential discrepancy represents one of the main analytical contributions of the study.

Accordingly, it should be noted that these results concerning ESPOCH teachers are hypothetical. Nevertheless, they are consistent with the psychometric and descriptive evidence published on the ICAP-TS. The original study reported satisfactory reliability indicators for the four dimensions and confirmed the four-factor structure through confirmatory factor analysis. Therefore, applying the instrument in the Ecuadorian context would make it possible to determine whether the pattern observed internationally—namely, a higher frequency of passive technology integration and a lower prevalence of interactive integration—is also reproduced in English classes at the Faculty of Mechanics.

Results Analysis: Semi-Structured Interview

The semi-structured interview was used as a complementary qualitative instrument to further explore the findings obtained through the DigCompEdu Check-In and the structured classroom observation based on the ICAP-TS. While the first instrument identified self-reported digital competence and the second provided insight into different forms of technology integration, the interview helped explain why teachers make particular instructional decisions, the challenges they face, and the conditions that facilitate or constrain the pedagogical use of technology. For this purpose, a hypothetical subsample of five English teachers involved in English IV-1 and English IV-2 at ESPOCH's Faculty of Mechanics was considered. The data were analyzed through thematic categorization of the responses.

The findings revealed five main categories: planning of digital activities, tool selection, student participation, contextual constraints, and professional development needs. Planning and resource selection emerged as the most frequently reported category, mentioned by all five teachers. Four teachers indicated that they mainly used educational platforms, presentations, videos, digital quizzes, and freely available online resources. However, only two reported systematically using digital tools to promote collaborative activities or enable students to create their own content.

Table 4. Semi-Structured Interview

Emerging Category	Teachers Who Mentioned It	Frequency
Planning and selection of digital resources	5	100%
Connectivity/equipment limitations	4	80%
Use of technology to present content	4	80%
Need for pedagogical training	4	80%
Digital collaborative activities	2	40%
Student production of digital content	2	40%
Assessment using digital tools	3	60%

One of the most relevant findings concerns the distinction between possessing technological knowledge and using it to transform the learning experience. Teachers reported greater confidence when using technology to present information, share materials, or conduct exercises. In contrast, they experienced greater difficulty designing activities in which students collaborate, produce content, or solve problems through digital resources. This pattern is consistent with Antonietti et al. (2023), who found that passive technology-supported activities were more frequent than constructive and interactive activities. Their study, based on 1,059 teachers, also confirmed the usefulness of the ICAP-TS for distinguishing among different levels of technology integration.

The interviews also showed that institutional conditions influence teachers' instructional decisions. Four of the five participants mentioned issues related to connectivity, device availability, preparation time, or unequal student access to technological resources. In this regard, teachers did not perceive technology as a resource that can be integrated independently of contextual conditions. This perception is consistent with recent research in vocational and technical education, in which teachers have identified infrastructure, technical proficiency, available time, and lesson preparation as conditions affecting the feasibility of technology integration.

Another finding relates to teacher professional development. Four teachers expressed an interest in receiving further training, but not exclusively on the technical operation of digital tools. The needs they identified were mainly related to selecting resources according to learning objectives, designing interactive activities, digital assessment, and integrating technology into English language teaching. This finding is particularly important because it suggests that future professional development initiatives should move beyond training focused on "how to use a tool" toward approaches centered on "why and how to use it pedagogically."

The interview also helped explain some apparently contradictory findings that may emerge across instruments. For example, a teacher might achieve a favorable level on the DigCompEdu Check-In while predominantly displaying passive activities in the ICAP-TS observation. The interview could help explain this discrepancy through factors such as limited time, insufficient infrastructure, group characteristics, or the need to prioritize specific curricular content. This triangulation is particularly valuable because the ICAP-TS was developed to analyze technology integration through learning activities rather than solely through the frequency of tool use.

Therefore, the qualitative findings suggest that technology integration in ESPOCH English classes does not depend exclusively on individual digital competence. Institutional conditions, available time, student characteristics, and the pedagogical purpose assigned to each tool also play an important role. This interpretation is consistent with recent qualitative studies using semi-structured interviews, which have found that teachers value technology when it facilitates participation, lesson preparation, and workload management, while also identifying constraints related to infrastructure, pedagogical appropriateness, and student readiness.

Accordingly, the semi-structured interview provides a contextual explanation that quantitative instruments alone cannot offer. The findings indicate favorable digital competence but still uneven pedagogical integration, particularly in constructive and interactive activities. This result strengthens the central argument of the study: the gap lies not simply between technological knowledge and lack of knowledge, but between self-reported digital competence and the pedagogical decisions that are ultimately enacted in the classroom.

Results Analysis: Review of Teachers' Lesson Plans

The review of teachers' lesson plans was incorporated as a qualitative documentary technique to complement the findings obtained through the DigCompEdu Check-In, the structured classroom observation based on the ICAP-TS, and the semi-structured interviews. Its purpose was to identify how teachers of English IV-1 and English IV-2 at ESPOCH's Faculty of Mechanics planned the integration of digital technologies, the pedagogical purposes assigned to them, and the relationship among the selected technology, learning objectives, activities, and assessment. For this analysis, 10 lesson plans corresponding to different English sessions were considered. The review used a matrix organized around five criteria: pedagogical purpose, tool selection, student participation, level of technology integration, and assessment.

The findings show that technology was included in most lesson plans, although the depth of its pedagogical integration varied. Ninety percent of the lesson plans included at least one digital resource, while 70% clearly specified the tool to be used. However, only 50% explicitly explained how the selected tool would contribute to achieving the learning objective.

Table 5. Review of Teachers' Lesson Plans

Criterion Analyzed	Lesson Plans Meeting the Criterion	Percentage
Includes technological resources	9/10	90%
Identifies the digital tool	7/10	70%
Links technology to the learning objective	5/10	50%
Promotes active participation	4/10	40%
Includes constructive activities	3/10	30%
Includes interactive activities	2/10	20%
Uses technology for assessment	6/10	60%
Includes digital feedback	4/10	40%

The main finding indicates a predominantly instrumental form of technology integration. In six of the ten lesson plans, digital resources were used primarily to present content, project videos, display images, share documents, or provide exercises. In contrast, only three lesson plans included activities in which students were required to produce information, solve problems, or create products using technology. This trend is consistent with Antonietti et al. (2023), who,

through the validation of the ICAP Technology Scale with 1,059 teachers, found that passive forms of technology integration were more frequent than constructive and interactive activities.

The findings also reveal a distinction between including technology in a lesson plan and designing a learning experience that is transformed through technology. For example, a lesson plan may indicate the use of a video to introduce English vocabulary without specifying a subsequent activity that allows students to analyze, produce, or interact with that content. This finding is particularly relevant because recent research on instructional planning has shown that technology integration often remains at low levels of transformation when technology merely substitutes traditional resources. A study published in *Teaching and Teacher Education* in 2026, based on 130 lesson plans and 568 instances of technology integration, similarly found a predominance of low levels of integration according to the SAMR model.

Another finding concerns the alignment among learning objectives, activities, and assessment. Fifty percent of the lesson plans showed an explicit relationship between the digital tool and the learning objective, while 60% incorporated some form of technology for assessment. However, only 40% included mechanisms for digital feedback. This suggests that teachers may use technology to assess students' knowledge but do so less frequently to provide personalized feedback or subsequently adjust instructional strategies.

This finding is consistent with the literature that considers instructional planning an important manifestation of teachers' professional knowledge. Backfisch et al. (2020) found that characteristics of teachers' professional knowledge were associated with the quality of their technology-related planning decisions. Likewise, recent studies indicate that lesson plans constitute a useful source for analyzing pedagogical intentions because they make it possible to observe how teachers translate their knowledge and objectives into concrete learning activities.

The review also made it possible to identify a potential gap between planning and practice. Although some lesson plans described collaborative or student-centered activities, classroom observations might reveal less complex implementation. This possibility is methodologically important. Antonietti et al. (2023) note that analyzing lesson plans is valuable, but teachers do not always implement exactly what they plan. Therefore, combining documentary review with classroom observation provides a more comprehensive understanding of technology integration.

Accordingly, the findings suggest that English teachers' technology-related planning shows considerable progress in terms of resource availability and selection, but still presents limitations in the pedagogical alignment of these resources. The low prevalence of constructive and interactive activities—30% and 20%, respectively—is particularly significant when compared with the predominance of activities focused on presenting and receiving information.

Data Triangulation

The triangulation of findings made it possible to analyze, in an integrated manner, the relationship among teacher digital competence, pedagogical planning, and actual classroom practices in English language teaching. The hypothetical data suggest that teachers could demonstrate a favorable level of digital competence according to the DigCompEdu Check-In; however, this competence would not necessarily be reflected in pedagogically advanced technology integration.

Structured classroom observation using the ICAP-TS would show a predominance of passive and active activities, whereas constructive and interactive practices would be less frequent. This trend would be consistent with the lesson plan review, in which approximately 90% of the documents would incorporate digital resources, while only 30% would include constructive activities and 20% would include interactive activities. Consequently, a distinction may exist between incorporating technology and using it to transform learning experiences.

The interviews would provide an explanation for this potential gap. Teachers would identify factors such as connectivity limitations, device availability, preparation time, and the need for pedagogical professional development. Thus, favorable digital competence could coexist with less complex classroom practices due to institutional and contextual conditions.

Overall, the triangulation would make it possible to identify three levels of analysis: what teachers report being able to do, what they plan to implement, and what they actually carry out in the classroom. The main expected finding would therefore be a gap between self-reported digital competence and observed pedagogical practice. This interpretation would support the understanding that effective technology integration depends not only on teachers' digital skills, but also on their ability to translate those skills into appropriate instructional decisions and on the conditions provided by the educational context.

Discussion

The findings suggest a gap between self-reported digital competence and its effective pedagogical application. Although teachers could demonstrate favorable levels of digital competence, classroom observations and lesson plan reviews would indicate a predominance of passive and active uses of technology, with a lower prevalence of constructive and interactive activities. This pattern is consistent with the systematic review by Claro et al. (2024), which found that research on teacher digital competence has focused more strongly on planning and the use of technology as a teaching resource, while placing less emphasis on student-centered activities.

Likewise, the findings are consistent with Antonietti et al. (2023), who validated the ICAP-TS and found that interactive activities represented the most challenging forms of technology

integration. Their study demonstrates that measuring the frequency of technology use is not sufficient; rather, it is necessary to examine how technology is integrated into learning activities.

Within the specific context of English language teaching, the findings are also supported by the review English Teachers' Integration of Digital Technologies in the Classroom, in which technology use was predominantly teacher-centered, while competence, confidence, available resources, and professional development were identified as relevant factors influencing integration (International Journal of Educational Research Open, 2022).

Furthermore, the potential discrepancy between planning and practice is consistent with studies showing that technology integration depends not only on individual capabilities but also on institutional conditions. In this regard, recent evidence on professional development in EFL contexts indicates that collaborative processes involving planning, observation, and reflection can promote more meaningful technology integration (Fu et al., 2026).

Overall, the findings support the hypothesis that higher levels of digital competence do not automatically guarantee more complex pedagogical practices. The quality of technology integration appears to depend on the interaction among digital knowledge, instructional decision-making, planning, opportunities for interaction, and institutional conditions. This interpretation will need to be confirmed through the study's actual empirical data.

Conclusions

The findings suggest that teacher digital competence is an important condition for technology integration in English language teaching, but it does not, by itself, determine the quality of pedagogical practices. Teachers would demonstrate a favorable command of digital resources; however, their use would tend to focus on content presentation, material distribution, and supporting exercises, while constructive and interactive strategies would be less prevalent. This indicates that knowing how to use digital tools does not necessarily mean using them for transformative pedagogical purposes.

The triangulation of the DigCompEdu Check-In, ICAP-TS-based classroom observation, semi-structured interviews, and lesson plan review would make it possible to identify a gap among self-reported digital competence, what teachers plan to implement, and the practices they actually carry out in the classroom. The interviews would also help explain how factors such as connectivity, device availability, planning time, and continuing professional development may shape this relationship. In this regard, technology integration should be understood as both a pedagogical and contextual process, rather than solely as an individual competence.

As a contribution, the study highlights the need to strengthen teacher professional development programs that connect digital competence with instructional application, particularly through activities centered on participation, knowledge construction, and interaction in English. Nevertheless, these findings should be interpreted with caution due to the descriptive

nature of the study, the use of convenience sampling, and its context-specific scope. Future research could expand the sample and incorporate longitudinal designs to determine how professional development and institutional conditions influence teachers' digital practices over time.

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