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Potentialities of Applied Translation for Language Learning in the Era of Artificial Intelligence



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Abstract: Artificial Intelligence (AI) and AI-powered machine translation bring opportunities and challenges for L2 educators and students. Most recently, the emergence of AI-based chatbots, such as ChatGPT, has led to calls for a revision of traditional teaching methods to prioritize reflective reasoning and critical thinking. This article studies the potentialities of Applied Translation (AT) to promote essential critical thinking skills needed to engage effectively with AI-based tools in the L2 classroom. We present the IMI+ framework (Integration, Multimodality, and Interaction) for integrating AT in language education, which helps support the development of digital literacy and critical thinking in L2 classrooms. Furthermore, given the challenges related to privacy and ethics inherent in these new technologies, we propose applying a Critical Ecological Approach (CEA) to AT to help learners navigate those challenges by identifying power imbalances and societal inequities. Finally, we explain how the seven articles in this special issue showcase the potential applications of AT in Spanish language education.

Keywords: Applied Translation (AT)/Traducción Aplicada (TA), Artificial Intelligence (AI)/Inteligencia Artificial (IA), ChatGPT, Critical Ecological Approach (CEA)/Acercamiento Ecológico Crítico (ACE), IMI+ framework/marco IMI+, language learning/aprendizaje de lenguas

1. Applied Translation (AT): A Definition

The call from Lee (2018) for the development of Applied Translation Studies (ATS), e.g., thinking about, recognizing, and appreciating translation in all its creative and critical potentialities, is a timely invitation to explore the many opportunities that translation can afford language education (155). Taking this theoretical framework as a starting point, we expand on the concept of Applied Translation (AT), which we define as the integration of translation in L2 education with an understanding of its multimodal and interactive nature in communication. Understood in this manner, AT offers solutions to interdisciplinary language-related problems and to societal challenges. In the current technological landscape, in which translation

apps have already proved to be useful in supporting informal language learning (Slatyer and Forget 2019: 452), AT is emerging as an approach that can enhance L2 teaching and learning across the educational spectrum. Simultaneously, its application in language learning contexts can also respond to contemporary societal demands through a Critical Ecological Approach (Lafford 2009; King Ramírez et al. 2021: 5–6), such as acquiring the ability to communicate effectively in superdiverse environments as plurilingual individuals (Muñoz-Basols 2019: 317).

To build on the potentials of AT, this article presents the IMI+ framework, which outlines the principles of AT *integration*, *multimodality*, and *interaction* in language education. These principles are further underpinned by the concepts of *digital literacy* (the proficient use of AI-powered technology tools, essential in the digital age) (see Baber et al. 2022; Gilster 1998) and *critical thinking* (the cognitive process of collecting, analyzing, and evaluating information to make informed judgements and choices) (see Hadley and Boon 2023; van Laar et al. 2017), as key tenets for the successful integration of translation in languages education. The framework is followed by an exploration of the Critical Ecological Approach (CEA) to AT, which describes how translation can be used in and outside the L2 classroom to help solve language-related and societal challenges. Learners are viewed here as interconnected with each other and with their environment, which develops their awareness of and response to power structures and societal inequities. The article concludes with an overview of the seven articles that make up this special issue, “Applied Translation in Spanish Language Teaching (SLT).” These articles demonstrate the potential applications of AT in Spanish language education and showcase the possibilities of a more integrated and practical approach to translation as a crucial component of language education.

2. Adapt or Fail: The Impact of AI-Powered Tools on L2 Pedagogy

The impact that the incorporation of technology and digital tools has had on the theory and practice of languages education is significant (Reinhardt and Oskoz 2021) and, in particular, the trend of leveraging students’ interest in technology to enhance their language learning experience. This was particularly evident during the COVID-19 pandemic, when language teachers had to resort to modifying and adapting their teaching methods by utilizing online platforms for language instruction. Away from language education, the restrictions on mobility necessitated by the pandemic led to a sudden turn towards an increased use of technology for communication and interaction purposes that required high levels of adaptability.

Artificial Intelligence (AI) is a tangible example of this ongoing need for people to be adaptable in the face of sudden technological change. The release of ChatGPT (Generative Pre-trained Transformer) in November 2022 is one such example that has prompted a variety of reactions across society. ChatGPT is an AI-based chatbot capable of producing convincingly human-sounding written output that, among other things, can simulate human conversation, compose poetry and music, translate, and generate academic essays in a relatively short period of time. While some view it as a useful tool that can increase efficiency, others have expressed concerns about the potential negative consequences that chatbots like this could have on education. Stokel-Walker (2022) questioned whether professors should be concerned about the emergence of AI-powered writing tools like ChatGPT. The article suggests that the impact of these tools will likely require educators and institutions “to adapt” at the curricular and assessment level, as differentiating between a human-generated text and one generated by AI is becoming increasingly difficult. According to Huang (2023), these AI tools will require educators to revamp how they teach, leading to the adoption of a higher degree of critical thinking and reflective reasoning on the part of educators as a methodology to counteract the effects of such chatbots (Stokel-Walker 2022). Many universities in the United States have already established task forces to respond to the emergence of ChatGPT, providing guidance as to how educators might navigate its potential impact. In the United Kingdom, a University of Cambridge survey in April 2023 revealed that ChatGPT had

already been used by 47% of the students surveyed. The advanced capabilities of ChatGPT were especially beneficial for challenging tasks, such as translating texts from medieval European languages into modern English prose, including 12th-century Piedmontese, Old Norse, and Church Slavonic (Sleator and Hennessey 2023). In some cases its use has even become a coursework requirement for students (Mok 2023) in recognition of the fact that AI is here to stay.

L2 education is also a space that inevitably will have to face up to the presence of AI-based technologies. Indeed, the ‘Google translate’ generation has long availed, both positively and negatively, of Machine Translation (MT) technologies in and out of the L2 classroom. Moreover, both the existence of translated texts, especially in the digital world, and the already ubiquitous use of these sophisticated technologies suggest that the role of translation needs to be addressed by L2 educators. The Communicative Approach historically viewed translation as a detractor rather than an ally (Carreres et al. 2017: 99–100; González-Davies 2017: 125) but, in recent years, it has been reimaged as a “non-expendable ‘fifth skill’ that can be used as a pedagogical tool to integrate the original four skills to enhance second language study” (Colina and Lafford 2017: 111).

The accessibility in recent years to automatic speech recognition (ASR) and Neural Machine Translation (NMT) technology, in which a sequence-to-sequence process enables the system to learn from the translation (Muñoz-Basols 2019: 315), has further accentuated the paradox of translation tools outside the language learning classroom vs. the role of translation in language learning classrooms. According to some scholars (Delorme Benites and Lehr 2021; Vinall and Hellmich 2022: 15–16), these technologies are calling into question the validity and applicability of language learning frameworks, such as the CEFR (Council of Europe 2018) or ACTFL (2012), as these frameworks do not acknowledge the role of technology in the language learning equation. Indeed, the prevalence of MT texts, which are often multimodal, suggests that the development of critical multiliteracies should be an essential part of any language performance indicators and a skill set that language learners need in order to glean and critique the meanings that they communicate. Given the speed of change in this domain, however, it is not surprising that language learning frameworks have yet to address this. As Goodwin et al. (2020) have argued within the realm of literacy, “rapid expansion of digital reading has exceeded the speed of research on its effects” (1838) and so perhaps it is unsurprising that this is the case.

The integration of AI-powered MT technology in language education (see articles by Cristina Plaza-Lara and by Melania Cabezas-García and Pilar León-Araúz in this special issue), more recently, with accessible apps such as Google Translate, ITranslate, DeepL or Readlang (Slatyer and Forget 2019: 446–47), has been a topic of much debate (Vinall and Hellmich 2022). On the one hand, the detect-react-prevent mindset, an approach which prohibits the use of translation devices in the classroom, argues that they hinder the development of language proficiency (Knowles 2016; Rico and Pastor 2022). On the other hand, the integrate-educate-model recognizes the positive impact such tools can have on both teaching and learning (Hellmich and Vinall 2021; Sun and Mei 2022). The latter emphasizes the need for a more proactive approach to teacher training and student education, which integrates MT technologies into language education (Jolley and Maimone 2022: 39) and may require teachers to go beyond their comfort zones (Muñoz-Basols 2019: 299). The consequence of this is that insufficient guidance on how to use these technologies can generate the very same mixed feelings among learners, thus defeating their potentially constructive role in the classroom (Gironzetti et al. 2020: 535; Deng and Yu 2022: 9; see also Muñoz-Basols et al. 2023; forthcoming).

Empirical research suggests the integration of MT marks a new era in language learning. Ducar and Schocket (2018) suggest “making peace with Google translate” by using MT as a source of authentic language to enhance engagement and motivation, while also acknowledging the limitations and moral implications that come with it, such as academic dishonesty and the need for educators to familiarize themselves with the appropriate use of MT technologies for evaluation purposes (Ducar and Schocket 2018: 792). Lee and Briggs (2021: 30) also argue that

MT can support language learners by being strategically integrated into the classroom, citing the quality of its output as one of the main reasons for its use. Furthermore, guiding students towards responsible and effective use of translation technologies can be highly beneficial for both students and educators (Jiménez-Crespo 2017: 190), either as an individual or collaborative learning activity (Cerezo 2017; Merschel and Munné 2022; Sánchez Cuadrado 2017). MT, however, is not the sole AI-supported technology that has demonstrated effectiveness in language learning. Other examples include the use of an auto-subtitle system in a multimodal context, which has been found to improve students' language comprehension, decrease cognitive load (working memory), and increase satisfaction with the learning experience (Malakul and Park 2023). Also, Speech Recognition Technology (SRT) has been identified as a valuable tool for language learning (Shadiev and Liu 2023), offering important benefits such as a positive impact on affective factors, namely: motivation and engagement, fostering of interaction, and provision of a self-paced learning environment that accommodates diverse student needs (2023: 84).

In a recent systematic review, Klimova et al. (2023) examined the application of AI emerging technologies, MT among them, in the instruction of English as a Foreign Language (EFL) at the university level. The findings indicate that the integration of AI technologies led to notable advancements in various aspects of language acquisition, such as the development of lexical and grammatical structures, enhancement of reading comprehension and improvement of students' writing confidence. Additionally, the use of these technologies was found to have a positive impact on fluency, enhanced students' increased involvement in the learning process and had a positive effect on motivation (Klimova et al. 2023: 12).

In the next section, we introduce an IMI+ framework (Integration, Multimodality, and Interaction + Digital Literacy and Critical Thinking). This framework can serve as a valuable starting point for implementing translation in language education while also supporting the shift to AI-based technologies. This framework is envisaged to support the integration of translation into language curricula from the foundational to the advanced level and exemplifies how the multimodal nature of AT can support the development of Intercultural Communicative Competence (ICC) (Byram 1997; Iglesias Casal and Ramos Méndez 2020) as well as other aspects of communication in an L2, such as the development of mediation to foster interlinguistic and intercultural awareness.

3. A Framework for Integrating Applied Translation in L2 Learning

As stated at the outset, the crux of AT posits that translation, as a *milieu* for social interaction, can be used to solve a myriad of language-related problems in an interdisciplinary manner. Here, a 'language problem' is best understood in the context of linguistic mediation (e.g., an activity that involves "reformulating, orally or in writing, for the attention of one or more third parties, an oral or written text to which those third parties do not have direct access") (CEFR 2018; Coste and Cavalli 2015: 26). The communication gap caused by a lack of 'direct access' can be bridged through the application of translation as a form of mediation; a process that seeks to overcome language-related barriers to meaning so that two different parties can communicate with each other.

This conceptualization of the communicative function of translation justifies the integration and application of translation across disciplines in multilingual contexts, particularly in the realm of language education. Furthermore, considering the various permutations of translation such as its modality (e.g., audiovisual, interpreting, audio description), or its nature (e.g., interlingual, intralingual or intersemiotic, multimodal), translation also has the potential to facilitate a wide range of interactions in languages classrooms (see Muñoz-Basols and Fuertes Gutiérrez 2023). These interactions can foster the development of plurilingual literacies (in particular, those of the L2) and Intercultural Communicative Competence (ICC).

This section will explore in more detail the value of integrating translation as a tool to solve language-related problems, the multimodal nature of translation (see Muñoz-Basols and Muñoz-Calvo 2015) and how this can develop different types of literacy and ICC in learner-users and the ways it promotes different types of interaction, each of which presents different types of language learning benefits. These tenets form the basis of the IMI+ framework (Digital Literacy and Critical Thinking) outlined here as a guide to be used by language educators to support learners in solving authentic language-related problems.

3.1. Integration: Tasks and Decision Making in Language Learning

Translation, like any other sort of mediation, is a task-based endeavour wherein the role of the mediator (a translator in this case) is not only to understand the meaning derived from a source text but also to convey this in a target text according to the ‘communicative purpose’ or function of the text in the target culture (Nord 2001: 151). This will, in turn, help determine the method of translation required. Consequently, such a task requires translators to make many decisions, which they may not make on their own, such as those related to textual features including style, language, or delivery (especially for oral texts) or whether the function of the text in the source culture is the same as that of the target culture. Translation requires the mediator to go beyond simple linguistic considerations and involves a multitude of other competencies to undertake the task at hand effectively.

In the context of AT, translation as a ‘task’ is one that seeks to solve a ‘language problem.’ More specifically, translation is a language-oriented activity that aims to facilitate communication between language users who are unable to communicate. Also, in this scenario, translation emerges as a language-based task resulting from action and, like any communicative act, is one that is undertaken in collaboration with others, allowing us “to coordinate actions, perceptions and attitudes, share experiences and plans, and to construct and maintain complex social relations on different time scales” (Fusaroli et al. 2014: 33). This process of *linguaging*, making sense of the world through language (Cuffari et al. 2015: 1110), is not a linear activity but one that is dynamic, situated, and emerges from interaction and practices (Piccardo 2019: 75). Consequently, translation requires constant decision-making to communicate an equivalent message. In this case, the language user is a social agent, a term that can be justifiably applied to a language learner who is also engaged in translation as a learning activity. This empowering vision of the learner and language user sees them as exerting agency in the learning process, allowing them to express what they need to be able *to do* in order to communicate in particular scenarios or situations (Council of Europe 2020: 28–29). In the context of AT, the learner *is* the mediator, the lynchpin who is empowered to make decisions that will determine the success of the communicative act.

The integration of translation, therefore, affords a level of authenticity to the language education experience of the learner, manifesting itself in several ways (see Figure 1).

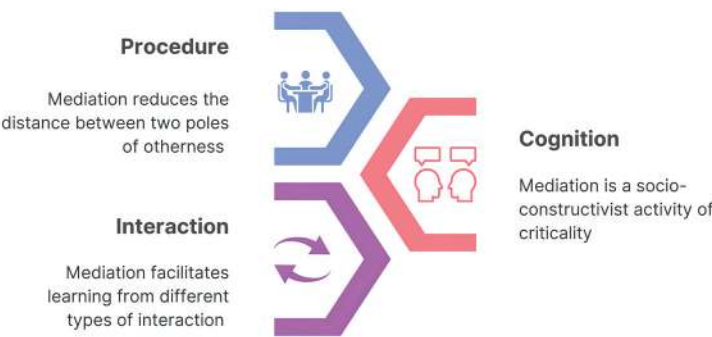


Figure 1. Mediation as a Procedural, Interactive, and Cognitive Activity

Firstly, when mediation is seen as any “procedure, arrangement designed in a given social context to reduce the distance between two (or more) poles of otherness” (Coste and Cavalli 2015: 27), the role of the learner is to adopt the persona of not only a linguistic but also cultural mediator (Byram and Zarate 1994), through which they endeavor to reduce the distance between the poles. For the purposes of translation, this is between the source text writer or speaker and the target text audience. Secondly, translation as a form of mediation also has cognitive value as it requires the learner-translator to perceive, critically reflect on, make decisions about how, why, and whether to provide access to information and knowledge. The cognitive aspect of translation is even more apparent when working with complex multimodal texts and the inevitable cultural differences that arise when working intersemiotically. As such, translation is not always an individual activity and, in fact, is enhanced when learner-translators are able to socially construct their learning by discussing their translation process and products with others (Incalcaterra et al. 2020). Thirdly, translation is also relational in that it helps the learner-translator understand and learn from different types of interaction, the quality of exchanges and how language problems can be resolved with linguistic solutions. Such solutions will always involve the process of linguistic and semiotic reformulation, thus supporting learning in developing deeper interlinguistic understandings (e.g., linguistic, pragmatic, sociolinguistic) but also intersemiotic understandings (for example, how cultural concepts can exist in one culture but not in another). Moreover, through such interaction with all types of texts, learners develop a greater understanding of the form and meaning associated with concepts, texts, and discourse genres.

These advantages clearly demonstrate the potentialities of translation as a pedagogical paradigm that can enhance language learning experiences. However, educational practitioners should be careful not to include translation for its own sake. As with any pedagogical intervention, its integration should be based on clear learning outcomes which, in the case of AT, should address the issue of which form of translation is best suited to help learners confront the language problem to be addressed. It is for this reason that the IMI+ framework proposed here invites language educators to first reflect on their own rationale for its inclusion (see Figure 2) and how they envisage its use in developing overall language proficiency (see Figure 3).

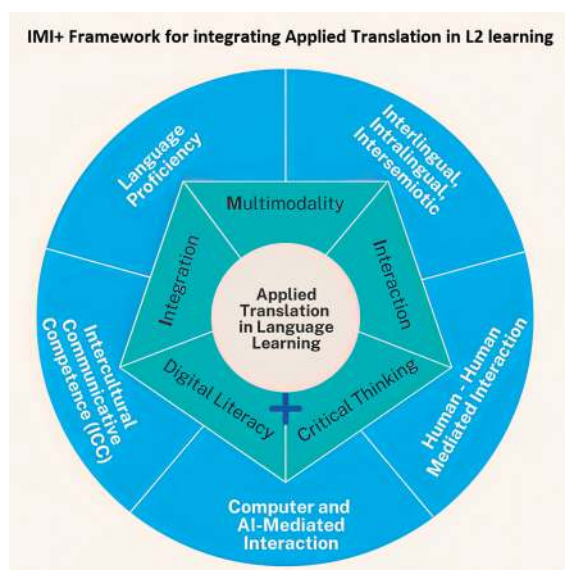


Figure 2. IMI+ Framework (Integration, Multimodality, and Interaction + Digital Literacy and Critical Thinking)

For example, an educator working in a language degree program may wish to explore the mediational potentialities of Audio Description (AD), a form of intersemiotic audio-visual translation (see Calduch and Talaván 2017; Pintado Gutiérrez and Torralba 2022). In this case, learners would be required to describe the visual information presented in a short sequence of film for viewers that are blind or have reduced sight. AD is often heard in accessible versions of film and television content where there are pauses in spoken dialogue. Consequently, the amount of information that can be presented is constrained by the amount of time between the gaps in the audio track. AD scripts are often drafted several times wherein language is made successively more succinct to describe orally as much of the visual content as possible with the fewest number of words. AD can therefore help develop professional experience in the field of AVT, linguistic knowledge (particularly around the use of active and passive sentences), written production, and general literacy skills related to redrafting, to name a few. While we would not recommend that educators try to develop all these competencies simultaneously, the option to develop one or two of them would drive the design and implementation of authentic language learning sequences that have translation at their core.

3.2. Multimodality: Mediating Communication Modes in Language Learning

As a result of the influence of computer-mediated communication, our understandings of what constitutes a text have broadened significantly. As Barton and Lee (2013) explain: “Texts can no longer be thought of as relatively fixed and stable. They are more fluid with the changing affordances of new media” (3). Moreover, texts are becoming increasingly multimodal and interactive in nature where “the use of several semiotic modes” (Kress and Leeuwen 2001: 20) such as images, videos, diagrams, infographics, prose, hyperlinks, hashtags, etc. are providing those reading such messages with new ways of receiving information. As Desjardins (2017) puts it, multimodal texts are best seen as “constellations of significations that are not bound by the constraints of the written word or printed page and that impact, and are impacted by, various social agents” (43). Additionally, as Taylor (2013) contends, multimodal texts are a key feature of normal, habitual communication in the world today (98). Consequently, their inclusion in language education curricula, as supported by Incalcaterra McLoughlin, Lertola and Talaván (2020), allow learners to work with contextualized, authentic, purposeful speech acts, more importantly, connecting language classes with the surrounding environment.

Translation in all its various forms has the potential to offer students the opportunity to develop the multimodal literacies required to navigate modern day texts including those that are mediated in the digital sphere (see Muñoz-Basols and Massaguer Comes 2018). In addition, it is vitally important that multimodal texts are dealt with in any language-oriented activity in their entirety, as opposed to the common practice of disassociating written material from visual or graphical material, a practice that simplifies the communicative complexity of multimodal texts (Laviosa 2007; Munday 2014; Torresi 2007). Instead, as Rose (2007) suggests, there is a need for increased training in visual literacies for translators as language specialists; language learners would arguably benefit from a similar exposure. The development of learners’ new literacies (e.g., visual, digital, critical, ecological) that transcend those related to just written or spoken language should become essential elements of the language learner classroom, as multimodal texts continue to place “new and interesting semiotic pressure on language” (Desjardins 2017: 43). This pressure on language (and those that translate it) is further compounded when such texts are produced by a computer either through MT or AI. For instance, in the case where the digital tool undertakes the translation, the translator takes on the role of translation editor where they are required to evaluate critically the computer-mediated content (see chapters by Cristina Plaza-Lara and by Melania Cabezas-García and Pilar León-Araúz in this special issue). As language educators, it is also our responsibility to help students to develop not only the ICC

to navigate these types of texts but also new digital (perhaps AI-based) literacies to aid their critical interpretation of such texts and to broaden their understandings of how meanings are created multimodally by non-human agents. In this way, learners will continue to maintain their own social agency over machines that potentially threaten to weaken it. A case in point, as previously outlined in Section 2 above, is the use of chatbots, characterized by their high level of accuracy and versatility in various contexts and situations. These AI-based digital tools have begun to revolutionize not only societal norms but also the field of education. This requires translation educators to gain a thorough understanding of the underlying mechanisms of these resources, as well as the ability to examine their positive and potentially negative contribution to learning as educational tools.

What is clear from the discussion thus far is that providing learners with the opportunity to work with multimodal texts has considerable potential for developing different literacies (both discipline specific, digital, visual and pluriliteracies) needed for translation; in addition, depending on how tasks are organized, these experiences can help translation students to learn how to use software and digital tools to translate and adapt such texts, working as part of a team where translation, pragmatic and intercultural awareness, and sociocultural knowledge are discussed and reflected on as learners socially construct their learning experiences. These 21st-century competences are ones that knit tightly to those outlined in the *Framework for 21st Century Learning* (Partnership for 21st Century Learning 2019). The need to develop these competences also reinforces the role of the language learner as a social agent, making decisions concerning how to mediate meaning across linguistic boundaries. The ‘multimodal’ element of the IMI+ framework encourages educators to consider the types of wider competencies and literacies that can be developed and supported by specific modes of translation. However, it should be made clear that this is not an exhaustive list, and, in fact, most types of translation can in some manner develop different facets of overall language proficiency.

3.3. Interaction: Meaningful and Authentic Experiences in Language Learning

In the introduction to a volume on the pedagogical applications of Audiovisual Translation (AVT), Incalcaterra McLoughlin, Lertola and Talaván (2020) rightly state that involving students in the translation process and thus reinforcing their position as social agents in their language learning not only allows them to develop their ICC but also facilitates “meaningful interaction in the target language” (2). As mentioned previously, translation of all types encourages meaningful types of interaction when learners are involved in the translation process itself and encouraged to make different types of choices to facilitate communication or convey meaning. This can further be encouraged by adopting a task-based approach, which, as stated above in section 3.1, aligns closely with the very nature of translation as an activity. Task-based approaches have strengthened language learning practice by placing greater emphasis on communicating through interaction, by making language learning more authentic, and by focusing on the process of learning itself and the linking of classroom language with that of the real world (Nunan 2004: 1).

The interaction strand of the IMI+ framework (see Figure 2) invites language educators to consider the types of interaction that they wish to develop in the classroom and how they align with the particular ICC that they wish to develop. The first decision that must be made relates to the type of translation adopted. Borrowing from the well-established typology proposed by Jakobson (1959, 2004), translation can occur *interlingually* (between 2 or more languages), *intra*lingually (within the same language) and increasingly *intersemiotically* (e.g., across modalities such as from spoken to signed), especially when working with multimodal content (see chapters by Alejandro Ros-Abaurrea and by Alejandra Crosta in this special issue). Each type of translation inevitably leans towards different forms of interaction where meaning, as has been shown in Cultural Translation, is always produced in the communicative act and is, therefore,

contextually bound (Maitland 2017). For example, the interlingual translation of a written text between language A and B will inevitably develop reception (reading) and production (writing) competencies in learners as well as, depending on the task and desired learning outcomes, intercultural awareness and sociolinguistic knowledge, among others (Fuertes et al. 2021; Klee and Lacorte 2021). Alternatively, for those students who also speak other languages (e.g., heritage language), the educator may wish to leverage this competency to help develop their pluriliteracies by encouraging them to translate the text into language C. On the other hand, an example of intralingual translation could relate to students producing a closed caption script for a video clip for the deaf or hard-of-hearing in the instructed language. These types of engagements support the development of aural reception and written production. If combined with the use of a digital tool, this would also support the development of digital competencies through the use of subtitles. A final example involving intersemiotic translation could be the creation of an audio description text where students are tasked with describing non-verbal, visual elements of a short clip. Audio description is particularly challenging because it requires translators to convey only essential information “clearly, vividly and succinctly” (Holland 2009: 170; see also Caldach and Talaván 2017; Pintado Gutiérrez and Torralba 2022). This type of activity would support not only the development of visual literacy but also written production skills and redrafting skills.

Once the type of translation has been chosen, language educators must then reflect on what form the interaction will take (e.g., between teacher and student, student and student, student and content, or, increasingly, between student/teacher and digital tools such as machine translation or AI). Moreover, the contexts in which these interactions take place can either be in the physical world (e.g., classroom) or, increasingly, in the digital (e.g., across the internet using videoconferencing) or virtual realms (e.g., in newly created, imaginary worlds). Evidently, each of these types of interaction facilitates the development of different modes of communication in language learners. Human-based interactions such as those between student and student will develop receptive (reading and listening) and productive (writing and speaking) modes. For example, to simulate an interlingual, sequential interpreting scenario wherein, learner A might describe the features of a tourist attraction to an interpreter (learner B) who then conveys the message to learner C.

However, as mentioned previously, the advent of AI and platforms such as ChatGPT has afforded learners the opportunity to interact with a machine while learning from this experience by being exposed to authentic language, based, among other sources, on the compilation of corpora. For example, ChatGPT, or any other similar chatbot, could be used to create different versions of the same translation for different audiences. These could then be compared with learner-created translations to observe how machines and language users create translation differently. This process would simultaneously support learners' development of digital literacy and understanding, e.g., the potentialities and limitations of AI-made content. It is also crucial to emphasize the importance of fostering critical thinking and reflective reasoning as a methodology for addressing the potential negative impacts of chatbots. This can be achieved through the activation of cognitive processes such as collecting, analyzing, and evaluating information in order to form sound judgments. This is particularly important in relation to translation which is tightly bound to its context. As Desjardins points out (2017: 36–37), technology has an effect on communication, impacting our behavior as language users. For learners, it is important to understand how digital tools and AI convey meaning in translation to enable them to evaluate machine-created output against human-created products as well as being able to evaluate the role that such tools can play in the translation process.

3.4. Digital Literacy and Critical Thinking: Necessary Skills for 21st Century Language Learning

The discussion thus far has focused on the value that translation in its widest sense can bring to the language learning experience for all those involved. However, for the successful implementation of the IMI+ framework, the development of digital literacies and critical thinking skills are also fundamental elements that need to be considered. Indeed, the aforementioned *Framework for 21st Century Learning* places both these skill sets, along with communication and collaboration, at the heart of the 21st century education experience. This fact is evidenced by the significant investment that is being made in the European Union on the Digital Education Action Plan (2021–27), which states in its preamble that 90% of professional roles across EU jurisdictions require basic literacy and numeracy skills, from business to transport and even farming; however, 42% of Europeans aged 16–74 still lack these basic skills (European Commission 2022). The importance of underpinning the learning, teaching, and assessment practices in language learning environments at all ages and stages with these skill sets should not be ignored. Indeed, the act of mediation between languages, peoples, and cultures, facilitated especially through multimodal forms of translation, offers plentiful opportunity for such skills to be developed (see the four articles by Shaydon Ramey, Melanie Arriagada, Alejandro Ros-Abaurrea, and Alejandra Crosta in this special issue).

Digital literacies are often interpreted as the levels of competencies that people have in using digital tools and software. As Si, Hodges, and Coleman (2022) show in their synthesis of the impact of multimodal literacies in emergent bilinguals, research tends to focus on how videos, digital applications, online platforms, websites, web-based software and multimedia tools can all be used to enhance communication, digital skills, creativity and also support the development of wider literacy skills and cultural identities (Castañeda, Shen, and Claros Berlioz 2018; Harrison and McTavish 2018). Clearly, as is evidenced by this discussion, particularly in relation to the treatment of multimodal texts, functional Information Technology (IT) skills are an essential competency in translation. However, in the introduction to a digital literacy framework created by Jisc (2014), a digital, data and technology agency that is supporting the development of digital literacy skills in tertiary education in the United Kingdom and Australia, it states that “digital literacy looks beyond functional IT skills to describe a richer set of digital behaviors, practices and identities” (<https://www.jisc.ac.uk/guides/developing-digital-literacies>) that are both contextually and temporally bound. The dynamic nature of digital literacy has been felt most acutely in 2022–23 with the explosion of AI-based applications, which has required educators and policymakers to rethink their policies and practices. Jisc’s framework is composed of seven digital literacies, which include *information literacy, media literacy, digital scholarship, learning skills, ICT literacy, career and identity management, communications, and collaboration*. All will apply to a greater or lesser degree in the language learning environment; however, some are particularly pertinent in the context of translation. For example, the development of information literacy requires learners to acquire the skills to find, interpret, evaluate, manage, and share information digitally. The translation of audiovisual material, for example, is often undertaken by large teams of professionals. When working with subtitles in the L2 classroom, groups of students might work on a translation collaboratively using a cloud-based subtitling tool. In this scenario, different learners might take on different roles such as the transcriber (creates the L1 script), translators (creates the L2 script), spotter (aligns the L2 script to the video) all of which can be undertaken simultaneously by working collaboratively online.

The second digital literacy that is pertinent to translation is media literacy, which is also fundamentally linked to *critical thinking*. The comprehensive critical thinking framework offered by Paul and Elder (2010, 2019) is particularly useful in understanding the types of competencies that learners need to develop in order to improve their quality of thinking. Their framework is based on three intersecting parts (see fig. 3).

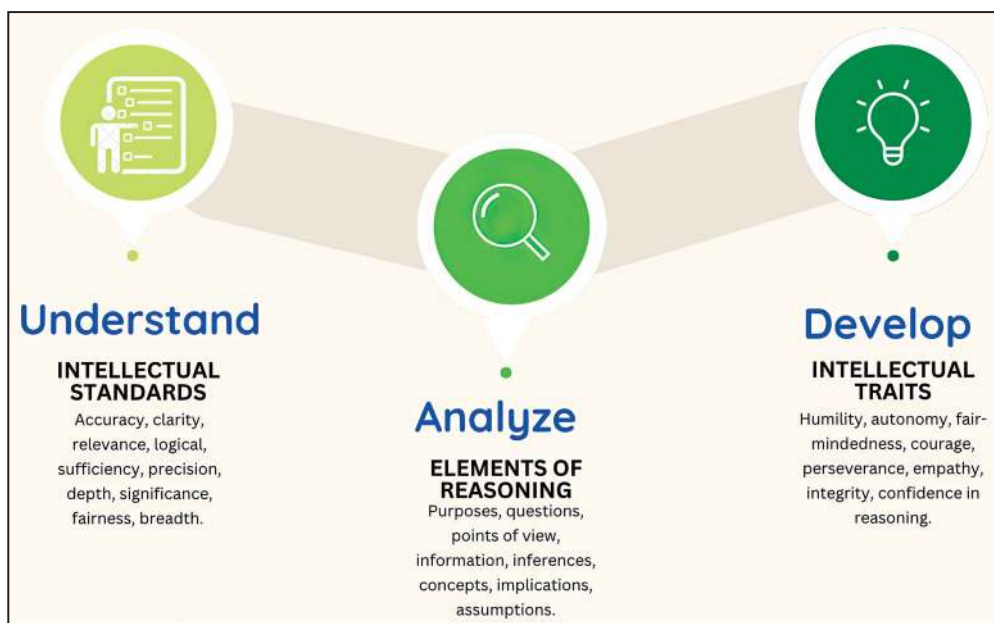


Figure 3. Critical Thinking adapted from Paul and Elder (2010, 2019)

Firstly, learners must understand the elements of reasoning or the different features of thoughts (e.g., points of view, information, inferences, etc.). Learners are then encouraged to view these elements of reasoning through a number of critical lenses termed Intellectual Standards (e.g., accuracy, clarity, relevance, logical, precision, etc.). The application of the intellectual standards helps learners to evaluate any text critically. Consequently, the application of both these features of critical thinking help to develop intellectual traits in learners (e.g., humility, fair-mindedness, courage, empathy, integrity, etc.) that are essential to be accomplished critical thinkers.

In the context of translation, each of these critical thinking features can support students' thinking and decision-making beyond the text itself to consider ideas such as author/ translator/publisher/broadcaster intention as well as to evaluate the equivalency of existing translations. An interesting example of critical thinking that could be developed through translation relates to the themes of censorship or ideology, two key themes in Translation Studies in both national and international contexts (see McLaughlin and Muñoz-Basols 2016). Discussing censorship in the language classroom contributes to learners' understandings about why some texts are translated and others are not, why certain words are translated, and others are not (e.g., taboo words), and, more recently, how texts and translations that exist in the ever-evolving ecology of the internet are shared or discarded based on individuals' online viewing habits (see Cronin 2003; 2013). A sample application of this type of approach for language learning is illustrated in research carried out by Díaz-Cintas (2019) focusing on film censorship in 1950s Spain. His research sheds light on the type of translational manipulation that was undertaken through dubbing by the totalitarian Francoist regime to maintain ideological control and protect socio-cultural values that were threatened through the screening of some Hollywood films. Adopting a multilingual approach and showing students excerpts of the films in the L1, L2a (Spanish-1950s) and, even, in L2b (Spanish-today), students can use their critical thinking skills to determine which elements are censored and to suggest why this might be the case. In addition to examining censorship, translation can serve as a valuable pedagogical tool for promoting critical reading skills in students. By analyzing the translation and/or adaptation of news articles across

different media outlets, and of potential fake news, students can gain insight into the underlying ideologies and agendas that influence the way information is presented and described, e.g., reading “all digital media with the kinds of skeptical resilience that are generated by critical literacy” (see McDougall et al. 2019: 205). This type of analysis is instrumental in promoting digital literacy and media awareness in the contemporary age. A second example relates to engaging students as volunteers with organizations such as *Translators Without Borders* who provide language services (e.g., translation, revision, subtitling and voice-over) for humanitarian non-profit organizations. This type of experiential learning will refine their critical understanding of information access and its importance.

While the development of digital literacies and critical thinking is a necessary underpinning for the IMI+ framework, there are elements of these skill sets that are yet to be developed or considered. Firstly, the digital divide that exists between those who have access to information via digital tools and those who do not remains significant in some parts of the world. For example, Alves and Faria (2020: 14) reveal that 20% of Brazil does not have access to the internet; they predict that around 49% of the world’s population do not either (2020: 2). Furthermore, we can predict that access to digital materials will often depend on learner access to the internet and digital devices. As a result, when incorporating the IMI+ framework, we must be mindful of these potential restrictions but also the responsibility that educators have in still developing digital and critical literacies with all learners in the pursuit of equity of access.

Finally, the second element of these skill sets that is yet to be conceptualized fully relates to the challenges and opportunities that, for example, AI and Virtual Reality (VR) pose to learners’ digital literacies and critical thinking. For example, in a recent address to the European Commission Expert Group on AI and Data in Education and Training, Mariya Gabriel, Commissioner for Innovation, Research, Culture, Education and Youth acknowledged the undeniable impact that AI and VR is going to have on the development of critical digital skills in education. However, she also recognised “it is equally important to discuss the risks of these technologies, particularly those linked to privacy and ethics” (European Commission 2022: 20). Ethics and ethical practice have long been a concern of Translation Studies more generally (see Inghilleri 2020: 160–67), particularly in relation to translator agency and their role in mediating cultural representation and intercultural communication (Chesterman 2001; see also Pintado Gutiérrez 2021). Ethical awareness (van Laar et al. 2017), and the discussion of ethical issues—a fundamental part of critical thinking—is essential in the language classroom when working with translation. However, such discussions become increasingly challenging when working with AI-based translation tools. For example, the use of AI translation tools requires the learner to upload text to some digital realm. If protecting our own identities online is an essential part of digital literacy, then questioning the ethical implications of putting sensitive, or even copyrighted, texts online must form part of the development of critical thinking skills in learners in any language learning context. Moreover, language learners should be encouraged to reflect on whether the translations produced by AI divest them of all or some of their own language learner agency and question whether affording this agency to a machine is an ethically sound practice, especially when translating texts from marginalized languages or cultures. The solutions to these issues are not necessarily clear-cut; however, in language learning contexts where translation is strategically employed, the application of Critical Ecological Approaches may prove useful to support learners to negotiate this challenging, ethical precipice.

4. A Critical Ecological Approach to Applied Translation

In order to ensure the successful implementation of the IMI+ framework to contribute to the solution of language related problems, we call for a *Critical Ecological Approach* (CEA) (King Ramírez et al. 2021) to AT. In fact, a CEA approach is designed to take the ‘language problems’

that the IMI+ framework aims to explore a stage further and focus on those language-related issues that exist in the real world. Moreover, a CEA approach can support an exploration of how technology can help prepare learners to apply their interlinguistic and intercultural communicative competences in culturally appropriate and ethical ways in real-world settings to effect positive social change. The importance of learners being aware of their own agency, not just as language users who can shape their own learning process, but also as human beings that have the potential to effect positive change on other human beings both in and beyond the classroom, forms an integral part of AT and, to some degree, *critical thinking* and *critical pedagogy*.

Critical pedagogical approaches (Freire 1970; Giroux 2011) focus on empowering learners to recognize the nature of established power structures and patterns of inequality that exist among societal members. This critical consciousness (*conscientização*, Freire 1970), which we might conceptualize as an extension of critical thinking, would encourage students to engage in concrete activities to bring about positive societal change in their communities to address these inequities. Similarly, an ecological approach to language teaching and learning views learners as interconnected in dynamic relationships within an ecosystem with other learners, and all elements of the environment (van Lier 2004). Ayers (2019) posits that such an approach “invites one to think about the connections between elements of the ecosystem, a way of thinking that extends to how we think about human and social systems” (9). Ayers (2019) suggests that humans need to acknowledge that some members have more power to impact the ecosystem than others, while other members suffer the repercussions of relational and systemic social and environmental injustices. Combining these two frameworks to form a CEA (King Ramírez, Lafford and Wermers 2021) supports the design and language learning programs in Languages for Specific Purposes (LSP), Translation and Interpretation (T&I), community service learning (CSL)/internships and other L2 courses. In all these learning contexts, students are given the opportunity to develop and apply the linguistic, intercultural and critical consciousness that may later be leveraged to work with marginalized communities to effect positive social change in the different ecosystems that they will inhabit throughout their lives.

In order to facilitate the development of critical consciousness in language students, course designers can utilize a CEA in the design of LSP/T&I and L2 courses and in the implementation of AT in the community. The reverse (or backward) curriculum design proposed by Wiggins and McTighe (2005) and currently utilized in LSP/T&I courses, focuses on the following four steps: domain analysis (Lear 2021) that considers the “content, concepts, terminology, tools and representational forms that people utilize within the domain” (Riconscente et al. 2016: 45), creation of *course objectives* (based on the results of that analysis), creation of instruments to be used in the evaluation of student attainment of those objectives, and the creation of tasks to facilitate students’ development of skills and competences necessary to reach those goals.

The integration of a CEA approach into this reverse-design paradigm would necessitate the collection of voices from particular professional fields, but also from marginalized groups they serve, using interviews, authentic written texts, and observations as part of the *domain analysis*. The results of this analysis, which would include voices from the margin to inform the creation of the course’s central *objectives*, would also create goals focused on students’ understanding of and proposed solutions to social justice issues (see articles by Alejandra Crosta and by Mariana Relinque and Francisco Javier Vigier-Moreno in this special issue). These objectives, in turn, would serve as the standards by which students are assessed to determine their progress toward the attainment of course goals. As King Ramírez, Lafford and Wermers (2021) contend, holistic and fair assessments within a CEA paradigm must take into account the background and cultural experiences of the person being assessed, e.g., the linguistic and professional experiences of heritage language (HL) students in T&I courses so that asset-based paradigms can be utilized when evaluating their work. Finally, the pedagogical tasks utilized in LSP/T&I courses

can be modified to serve a socially-committed AT agenda. For instance, instructors utilizing genre- and corpus-based pedagogy (Martínez Martínez 2019) in these courses can work with researchers and other instructors to broaden the text base of the corpora used for those analyses to include oral and written texts documenting direct and mediated interactions with community members who fight against the deleterious effects of systemic racism and marginalization. The results of such text analyses can be used to create ecologically-valid task scenarios in which AT activities are used to mediate communication between community members who have been adversely affected by decisions made by powerful groups in their society and representatives of those entities.

In order to integrate CEA into LSP/T&I courses, their curricula also need to go beyond the incorporation of social justice elements in course design and the inclusion of the topic of socio-linguistic variation within the communities served by AT services (Colina and Angelelli 2015); these curricula also need to facilitate the development of students' *critical cultural awareness* (CCA) (Byram 1997) and *Critical Language Awareness* (CLA) (Clark et al. 1990; Loza and Beaudrie 2022). While Byram (1997) defined CCA as the "ability to evaluate critically and on the basis of explicit criteria, perspectives, practices and products in one's own and other cultures and countries" (63), Clark et al. (1990) pointed out that CLA helps students develop the "operational and descriptive knowledge of the linguistic practices of their world, but also a critical awareness of how these practices are shaped by and shape social relationships of power" (249). In addition, as *translanguaging* (García and Li 2014) is an everyday linguistic practice among bilingual members of Latinx communities in the United States (García and Alonso 2021; Moreno Clemons and Toribio 2021), LSP/T&I courses should purposefully give students tasks involving the use of both Spanish and English in authentic ways during the practice of AT activities so that they can appreciate the validity of translanguaging practices in the communities they serve and know how to apply them. All of these constructs need to be integrated into LSP/T&I courses to prepare students for AT interactions with members of the marginalized communities in which they will serve. In this same vein, Colina and Angelelli (2015) noted that there has been a recent shift in Translation and Interpreting Studies (TIS) toward a focus on "investigations of the interactions between social and political power relations and conflicts and the practices of T&I" (108), which would contribute to informing a critical agenda for AT to help effect societal change, reflecting the social justice turn in second language acquisition studies (Ortega 2017).

In order to effect this kind of social justice turn, LSP/T&I researchers and practitioners need to work collaboratively with academics and professionals in a myriad of disciplines and domains that also address these issues (e.g., healthcare, law, business, social work, international asylum and refugee protection) (Colina and Angelelli 2017). One of the best task-based activities to foster this type of interdisciplinary collaborative problem-solving is the use of *case-based pedagogy* (Stanley 2019) involving working groups composed of LSP/T&I students and those from courses based in different disciplines. Working together, they are encouraged to come up with solutions to solve real world challenges, e.g., the lack of linguistically and culturally competent individuals assigned to Spanish-English interpreting in a particular medical clinic in a Latinx neighborhood in the United States. In this case, the working groups need to collect, analyze, and evaluate information and AT interactions to propose possible solutions to this urgent societal problem.

Along with using interdisciplinary approaches to AT to hone students' skills, the use of technology in LSP/T&I courses can help to increase students' ability to mediate meaning between languages. For instance, Hubscher-Davidson and Devaux's (2021) special issue of *The Journal of Specialised Translation* provides information on the positive effects of the use of virtual environments to provide T&I education at a distance and to increase T&I students' digital literacy and engagement. As an example of these activities, T&I students in the United States could be paired with T&I students in target-language countries to participate in a COIL virtual

exchange (Collaborative Online International Learning [SUNY COIL Center n.d.]) project. Such international projects include elements of both *project-based* (Thomas and Yamazaki 2021) and *place-based* (Sobel 2004) pedagogy. A possible CEA-infused project could include having T&I students from different geographical areas using COIL to investigate similar social justice themes in the countries involved and to propose the use of AT activities to address them (e.g., compare the T&I needs of recent immigrants in the students' countries, identify the strengths and deficiencies of agency programs that work with translators and interpreters to meet the needs of these new immigrants, and propose solutions to remedy the identified deficiencies and improve T&I training programs).

In addition to supporting critical AT activities in LSP/T&I courses, a CEA can also inform the integration of AT activities in regular L2 courses (Lear 2019), as well as courses in other disciplines (Ruggiero 2022). For instance, Colina and Lafford (2017) propose the integration of T&I activities into language courses at all levels; the complexity of the activity would depend on the linguistic and cultural competencies of the students in a particular course. However, these authors also note that students should be made aware that the use of "standard Spanish" is not always the most appropriate linguistic register to use in T&I activities in different community settings, and that "[l]ocal expressions sometimes are more appropriate than standard forms for informal communications directed at Spanish speakers in the US" (Colina and Lafford 2017: 120). Lafford (2015) also proposes that three curricular design elements from LSP/T&I courses, e.g., the recognition of elements in the *rhetorical situation*, *pragmatics* and the importance of *genre* in textual analysis, be integrated into the planning and execution of all L2 courses. A CEA approach to this integration would include class discussions concerning the power relations among interlocutors from distinct social communities and how those relationships call for the use of certain pragmatic norms and language/registers to be used among those interlocutors in AT activities in a given social context. This, in turn, also presents an opportunity to develop wider critical thinking skills. In addition, students can be made aware of certain oral and written textual genres that arose from the cultures of marginalized communities (e.g., spoken word poetry, hip-hop, and rapping from Black and Latinx communities in the US as well as in other Latin American countries [Mexico]) that need to be understood within their unique social contexts in order for these T&I students/future professionals to be able to apply their knowledge and competently perform language mediation AT activities on those texts.

All of these proposed CEA-infused AT tasks can help prepare language students to develop the *critical consciousness* they need before they can apply their T&I skills effectively in community service learning (CSL) or internship activities, in which they can interact and work with community members to find solutions to societal problems. King de Ramírez and Lafford's (2017) study involving internship mentors attested to the fact that interns in social service venues are often asked to translate and interpret for Spanish-speaking community clients in the US. Moreover, Mellinger and Gasca-Jiménez (2019) discussed the cultural and linguistic advantages of having heritage learners serve as interns with members of the US Latinx community. The article in this special issue by Mariana Relinque and Francisco Javier Vigier-Moreno provides a perfect example of current T&I university student interns in Andalucía applying their skills to handle the needs of immigrants in the international asylum and refugee protection centers in southern Spain (see Briales and Relinque Barranca 2021). This study also points out the clear need for more extensive and improved training of university students who will work as interns or professionals in this particular international protection domain. As both CSL and internship activities (at home and abroad) involve *experiential learning* (Dewey 1938, 1988; Kolb 1984) students participating in these initiatives need to critically reflect on their experiences, the development of their own critical consciousness, and their ability to apply this consciousness and their T&I skills throughout their community experiences.

Although the use of AT tasks in the community can help LSP/T&I and L2 students to develop their communicative and intercultural competences, researchers, program directors and community partners also need to focus on and evaluate the (positive or negative) impact that the internship program partnership and the interns themselves have on the community being served. Plews, Misfeldt and Feddersen (2022: 123) discuss the need for *transformative authenticity*, e.g., “the quality of both providing a balanced view of all perspectives and values and especially also giving back to individuals (and communities) and stimulating positive action or change.” In this way, students see themselves not only as participants in a university-community partnership, but also as agents of change (Lafford 2023). This critical interventionist approach requires researchers, practitioners and students to be mindful of social justice issues in the communities they serve and to take deliberate steps to work with those communities to stimulate and effect positive social action and change.

5. This Special Issue: Applied Translation in and Beyond the Classroom

Perhaps as a result of intense global interconnectivity, catalyzed by information and communication technologies, we continually sense the quest for social relevance (Tyulenev 2014), the wondering about how human endeavors, from the mundane to theoretical thinking, mutate the social fabric, inviting us to revise and refresh established notions, beliefs, and practices. Global interconnectivity has magnified our awareness of how formidable a barrier we face when our interlocutors are literally at our fingertips but language differences impede direct communication with them. The heightened sense of opportunity derived from global networking could only deliver its promise through the intensified translation activity that is continuously expediting cross-language communication (Doherty 2016). This ubiquitous presence of translation in intercultural and transcultural transactions has led Cronin (2013) to suggest that the notion of “information age” (6) as a descriptor of our contemporary age could be revised, or at least complemented, by the descriptor “translation age.” Killman (2018) also uses the phrase “digital era of translation” (137) to point out that human-machine collaboration is a mainstay in language and culture mediation services. In all its forms, translation and interpreting endeavors are at the center of AT research and practice, which encompasses the acknowledgement that multilingualism, regardless of the number of speakers of any given language, is a societal asset whose value is enhanced through mechanisms that enable cross-language communication even if communication nuances may never be fully translatable (Wang 2007). As the discussion has shown hitherto, AT, like other applied disciplines, seeks to identify language solutions that may address real life “problems” or challenges, which may involve brokering interlingual, intralingual or intersemiotic communication across languages and cultures in the classroom and in the local or international community.

All the articles in this special issue are situated within the framework of AT and approach translation processes from a pedagogical perspective whether in a classroom setting or outside the classroom. In this regard, the articles add to the body of research that over the last decade reminds us time and time again that translation studies epitomizes the dynamic interdisciplinarity that is akin to humanities-based research (Hawkins 2019; Kratz 2012). The centrality of the academic in translation studies, with the number of academic programs in translation steadily growing in the United States (Ferreira and Schwieter 2022), echoes the growing presence of these programs worldwide, both at the undergraduate and the graduate level, where students have opportunities to bolster their knowledge as future translators and researchers (Risku 2016).

The first two articles address aspects of MT. Article one, “La posesición en el aula de lengua para traductores: Implicaciones metodológicas y propuesta didáctica,” brings to the fore the fact that the bilingual proficiency of students enrolled in translation programs exists at several developmental stages and continues to develop for the duration of their program. In order to

support learners' bilingual proficiency development, Cristina Plaza-Lara proposes the integration of post-editing protocols and techniques, which are usually associated with only one course in the program that is focused on studying post-editing strategies, into different courses throughout the curriculum. The article highlights the pedagogical potential of this cross-curricular proposal as post-editing tasks draw learners' attention to language features that may be less salient during traditional translation tasks. The author implicitly shows the potential of looking at how elements from two fields, namely second language acquisition and AT, when working in tandem can enhance the learning processes that are simultaneously language-specific and translation-specific.

In the second article, "La traducción automática en el aula de español para fines específicos: el caso de los términos compuestos," Melania Cabezas-García and Pilar León-Araúz delve into pedagogical applications of neural machine translation as executed by widely used AI-powered systems such as Google Translate and DeepL. The study focuses on the English-to-Spanish translation of compound nouns, which are frequently used in highly specialized texts that feature scientific and technical terminology. The results indicate that depending on the type of compound noun, the two translation systems yield different results in terms of translation accuracy, understood as both morpho-syntactic and idiomatic accuracy. While the two systems produce remarkably accurate translations, they are not error-free, which provides pedagogical opportunities for student-translators to engage in post-editing tasks. The article offers a systematic method whereby student-translators may verify the quality of the MT output and perform suitable corrections during the post-editing phase.

Shaydon Ramey brings a European perspective to understanding the role of translation in language teaching in the article titled "Making Translation Communicative: Mediation in the Communicative Language Classroom." The article discusses how mediation as a construct is understood in different disciplines and discusses the roles played by different human agents when acting as mediators in any communicative action. The mediation model, which is embedded in the CEFR (2018) as one of the four modes of communication (reception, production, interaction, and mediation), is presented as a paradigm whose components offer another way of looking at implementing communicative tasks in L2 classes so that those tasks have ecological validity. Ramey highlights that mediation can be better understood by learners with a task that does not require interlanguage mediation. The article explains how to transition from a L1 mediation task to an interlanguage one.

Alejandro Ros-Abaurrea's article, "Translating Musicalized Texts: A Didactic Proposal for University Translation Students" articulates a pedagogical protocol that places into dialogue the art of song lyrics translation and the theory of translating musicalized texts. The article details the phases of a lesson that is delivered over several days and concludes with having undergraduate students experience the role of translators by translating song lyrics from English to Spanish. Readers will find in this article elements that they can incorporate in classes whose goal is to emphasize awareness of the translation intricacies involved in culture-rich texts that are characterized by multimodality.

In the next article, "Análisis contrastivo entre el diálogo en español y el subtítulo en alemán de una serie de *streaming*: Aportes teórico-prácticos para el fomento de la mediación," by Melanie Arriagada, mediation is situated within the multimodal context of audiovisual translation from Spanish into German with the goal of developing German students' pragmatic competence in Spanish as a second language. Complementing the discussion of mediation offered previously by Shaydon Ramey, Melanie Arriagada invites readers to reflect on the theoretical considerations that address a myriad of facets relevant to the authenticity of pedagogical materials and pedagogical usability of audiovisual translation in the L2 classroom to develop pragmatic competence. The theoretical considerations are followed by details of how to implement the use of audiovisual subtitling to raise pragmatic awareness. The implementation, which has been tested

on L1-German students of Spanish as L2 with a proficiency level of A2+/B1 (CEFR scale), is described and illustrated with appendices that facilitate the replicability of this research for pedagogical and research purposes.

In their article, “Interpreting for Refugees and Asylum Seekers in the South of Spain: How University Interpreter Training Can Respond to Real Needs Identified by Stakeholders,” Mariana Relinque and Francisco J. Vigier-Moreno demonstrate the far-reaching power of being able to bridge the communication barrier posed by languages. Readers will find in this article insightful accounts of communication challenges and solutions that depend on interpreters’ language and cultural mediation. The authors highlight that matters of ethics and empathy have a direct bearing in accomplishing language interpreting tasks where the parties involved are in vulnerable situations. The article concludes with a number of recommendations to generate collaborations between higher education institutions and community agencies so that the groups who depend on humanitarian services may receive the benefits of being assisted by highly trained language and culture mediators.

This special issue closes with Alejandra Crosta’s article, “Feminismo y activismo en la traducción de la novela gráfica *Red Rose / La rosa roja*.” This article illustrates a case in which pedagogy is taken out of the classroom and into the community to show how translators can apply their expertise to engage in projects that are transformative. In the graphic novel *Red Rose* literature blends with real life to represent and interrogate the social establishment. Alejandra Crosta reflects on the process of team-translating a novel that was created to be accessible to a wider readership. As stated by the author, one objective that guided the Spanish translation of the graphic novel *Red Rose* was to educate women and youth about an historical figure, Rosa Luxemburg, who defied established social norms that curtailed opportunities for women of her time.

Intrinsic to any research endeavor is the capacity to invite change and periodically revisit established tenets to confirm them or to revise them. The contributions to this special issue address topics by exploring ways in which AT may promote not only expert use of technology but also enhance translation skills and L2 development simultaneously. The implicit principle that shapes the articles in this special edition is rooted in the understanding that what happens in the classroom needs to be connected with the environment and that learning experiences can be extended beyond the locus of the classroom in order for the community to receive the benefits of the exploration of novel approaches to AT. The team of guest editors anticipate that the *Hispania* readership will find in the scholarship included in this special issue worthy paradigms for future research and practice. We appreciate the authors’ contribution to a scholarship that articulates a conversation between what happens inside and outside the classroom.

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WORKS CITED

Alves, Elaine Jesus, and Denilda Caetano Faria. (2020) “Educação em tempos de pandemia: Lições aprendidas e compartilhadas.” *Revista Observatório*, vol. 6, no. 2, pp. 1–18.

- American Council on the Teaching of Foreign Languages. (2012). *ACTFL Proficiency Guidelines 2012*, ACTFL.
- Ayers, Jennifer R. (2019). *Inhabittance: Ecological Religious Education*, Baylor UP.
- Baber, Hasnan, et al. (2022). "A Bibliometric Analysis of Digital Literacy Research and Emerging Themes Pre- and During the COVID-19 Pandemic." *Information and Learning Sciences*, vol. 123, nos. 3/4, pp. 214–32.
- Barton, David, and Carmen Lee. (2013). *Language Online: Investigating Digital Texts and Practices*, Routledge.
- Briales Bellón, Isabel, and Mariana Relinque Barranca. (2021). "El intérprete en contextos de asilo y refugio: Necesidades reales versus formación académica," *Investigación traductológica en la enseñanza y práctica profesional de la traducción y la interpretación*, edited by Chelo Vargas Sierra and Ana Belén Martínez López, Comares, pp. 209–20.
- Byram, Michael. (1997). *Teaching and Assessing Intercultural Communicative Competence*. Multilingual Matters.
- , and Geneviève Zarate. (1994). *Definitions Objectives and Assessment of Socio-cultural Competence*. Council of Europe.
- Calduch, Carme, and Noa Talaván. (2017). "Traducción audiovisual y aprendizaje del español como L2: El uso de la audiodescripción." *Journal of Spanish Language Teaching*, vol. 4, no. 2, pp. 168–180, doi: 10.1080/23247797.2017.1407173.
- Carreres, Ángeles, et al. (2017). "Translation in Spanish Language Teaching: The Fifth Skill / La traducción en la enseñanza del español: La quinta destreza." *Journal of Spanish Language Teaching*, vol. 4, no. 2, pp. 99–109, doi:10.1080/23247797.2017.1419030.
- Castañeda, Martha, et al. (2018). "This Is My Story: Latinx Learners Create Digital Stories during a Summer Literacy Camp." *TESOL Journal*, vol. 9, no. 4, pp. 1–14, doi:10.1002/tesj.378.
- Cerezo, Luis. (2017). "Always Together or Alone First? Effects of Type of Collaborative Translation on Spanish L2 Development." *Journal of Spanish Language Teaching*, vol. 4, no. 2, pp. 152–67, doi:10.1080/23247797.2017.1411678.
- Chesterman, Andrew. (2001). "Proposal for a Hieronymic Oath." *The Translator*, vol. 7, no. 2, pp. 139–54.
- Clark, Romy, et al. (1990). "Critical Language Awareness. Part I: A Critical Review of Three Current Approaches to Language Awareness." *Language and Education*, vol. 4, no. 4, pp. 249–60.
- Colina, Sonia, and Claudia V. Angelelli. (2015). "Translation and Interpreting Pedagogy." *Researching Translation and Interpreting*, edited by Claudia V. Angelelli and Brian J. Baer. Routledge, 108–17.
- . (2017). *Translation and Interpreting Pedagogy in Dialogue with Other Disciplines*. John Benjamins.
- Colina, Sonia, and Barbara A. Lafford. (2017). "Translation in Spanish Language Teaching: The Integration of a 'Fifth Skill' in the Second Language Curriculum." *Journal of Spanish Language Teaching*, vol. 4, no. 2, pp. 110–23, doi:10.1080/23247797.2017.1407127.
- Coste, Daniel, and Marisa Cavalli. (2015). *Education, Mobility, Otherness: The Mediation Functions of Schools*, Council of Europe, (Language Policy Unit), Strasbourg. <http://rm.coe.int/education-mobility-otherness-the-mediation-functions-of-schools/16807367ee>.
- Council of Europe. (2020). *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*, Council of Europe. <https://www.coe.int/en/web/common-european-framework-reference-languages>. Accessed 30 Jan. 2023.
- . (2018). *Common European Framework of Reference for Languages: Learning, Teaching, Assessment*. Council of Europe, <https://rm.coe.int/cefr-companion-volume-with-new-descriptors-2018/1680787989>.
- Cronin, Michael. (2013). *Translation in the Digital Age*. Routledge.
- . (2003). *Translation and Globalization*. Routledge.
- Cuffari, Elena Clare, et al. (2015). "From Participatory Sense-Making to Language: There and Back Again." *Phenomenology and the Cognitive Sciences*, vol. 14, pp. 1089–1125.

- Delorme Benites, Alice, and Caroline Lehr. (2021). "Neural Machine Translation and Language Teaching: Possible Implications for the CEFR." *Bulletin Suisse de Linguistique Appliquée*, vol. 114, pp. 47–66.
- Deng, Xinjie, and Zhonggen Yu. (2022). "A Systematic Review of Machine-Translation-Assisted Language Learning for Sustainable Education." *Sustainability*, vol. 14, pp. 1–15, doi: 10.3390/su14137598.
- Desjardins, Renee. (2017). *Translation and Social Media. In Theory, in Training and in Professional Practice*. Palgrave Macmillan.
- Dewey, John. (1938/1988). "Experience in Education." *John Dewey: The Later Works, 1925–1953*, edited by Jo Ann Boydston and Barbara Levine, vol. 13, pp. 1–62. Southern Illinois UP.
- Díaz-Cintas, Jorge. (2019). "Film Censorship in Franco's Spain: The Transforming Power of Dubbing." *Perspectives: Studies in Translation Theory and Practice*, vol. 27, no. 2, 182–200, doi: 10.1080/0907676X.2017.1420669.
- Doherty, Stephen. (2016). "The Impact of Translation Technologies on the Process and Product of Translation." *International Journal of Communication*, vol. 10, pp. 947–69.
- Ducar, Cynthia, and Deborah Schocket. (2018). "Machine Translation and the L2 Classroom: Pedagogical Solutions for Making Peace with Google Translate." *Foreign Language Annals*, vol. 51, no. 4, pp. 779–95, doi:10.1111/flan.12366.
- European Commission. (2022). *Minutes of the Expert Group: Fourth Meeting of the Expert Group on Artificial Intelligence and Data in Education and Training*. Register of Commission Expert Groups and Other Similar Entities, Brussels, <https://ec.europa.eu/transparency/expert-groups-register/core/api/front/document/85540/download>.
- Ferreira, Aline, and John W. Schwieter. (2022). "The Birth and Development of Translation and Interpreting Studies." *Introduction to Translation and Interpreting Studies*, edited by Aline Ferreira and John W. Schwieter, John Wiley, pp. 1–22.
- Freire, Paolo. (1970). *Pedagogy of the Oppressed*. Translated by Myra Bergman Ramos, Continuum.
- Fuertes Gutiérrez, Mara, et al. (2021). "Sociolingüística aplicada a la enseñanza del español / Applied Sociolinguistics in Spanish Language Teaching (SLT)." *Journal of Spanish Language Teaching*, vol. 8, no. 2, pp. 105–113, doi:10.1080/23247797.2021.2019448.
- Fusaroli, Riccardo, et al. (2014). "The Dialogically Extended Mind: Language as Skilful Intersubjective Engagement." *Cognitive Systems Research*, vols. 29–30, pp. 31–39, doi:10.1016/j.cogsys.2013.06.002.
- García, Ofelia, and Lara Alonso. (2021). "Reconstituting U.S. Spanish Language Education: U.S. Latinx Occupying Classrooms." *Journal of Spanish Language Teaching*, vol. 8, no. 2, pp. 114–28, doi:10.1080/23247797.2021.2016230.
- García, Ofelia, and Wei Li. (2014). *Translanguaging. Language, Bilingualism, and Education*. Palgrave Macmillan.
- Gilster, Paul. (1998). *Digital Literacy*. John Wiley.
- Gironzetti, Elisa, et al. (2020). "Teacher Perceptions and Student Interaction in Online and Hybrid University Language Learning Courses." *Current Perspectives in Language Teaching and Learning in Multicultural Contexts/Perspectivas actuales en la enseñanza y el aprendizaje de lenguas en contextos multiculturales*, edited by Margarita Planelles Almeida et al., Thomson Reuters Aranzadi, pp. 507–39.
- Giroux, Henry. (2011). *On Critical Pedagogy*. Continuum.
- González-Davies, María. (2017). "The Use of Translation in an Integrated Plurilingual Approach to Language Learning: Teacher Strategies and Best Practices." *Journal of Spanish Language Teaching*, vol. 4, no. 2, pp. 124–35, doi:10.1080/23247797.2017.1407168.
- Goodwin, Amanda, et al. (2020). "Digital versus Paper Reading Processes and Links to Comprehension for Middle School Students." *American Educational Research Journal*, vol. 57, no. 4, pp. 1837–67.
- Hadley, Gregory, and Andrew Boon. (2023). *Critical Thinking*. Routledge.
- Harrison, Eugene, and Marianne McTavish. (2018). "'i' Babies: Infants' and Toddlers' Emergent Language and Literacy in a Digital Culture of iDevices." *Journal of Early Childhood Literacy*, vol. 18, no. 3, pp. 163–88, doi:10.1177/1468798416653175.

- Hawkins, Spencer. (2019). "Undisciplinable: The Place of Translation Studies within the History of Interdisciplinarity in the United States." *Transfer*, vol. 14, nos. 1–2, pp. 182–201.
- Hellmich, Emily, and Kimberly Vinall (2021). "FL Instructor Beliefs about Machine Translation: Ecological Insights to Guide Research and Practice." *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT)*, vol. 11, no. 4, pp. 1–18, doi:10.4018/IJCALLT.2021100101.
- Holland, Andrew. (2009). "Audio Description in the Theatre and the Visual Arts: Images into Words." *Audiovisual Translation*, edited by Jorge Díaz-Cintas and Gunilla Anderman, Palgrave Macmillan, doi:10.1057/9780230234581_13.
- Huang, Kalley. (2023). "Alarmed by A.I. Chatbots, Universities Start Revamping How They Teach." *NYTimes*, www.nytimes.com/2023/01/16/technology/chatgpt-artificial-intelligence-universities.html.
- Hubscher-Davidson, Séverine, and Jérôme Devaux. (2021). "Teaching Translation and Interpreting in Virtual Environments." *Journal of Specialized Translation*, vol. 36, https://jostrans.org/issue36/art_hubscher.php#abst.
- Iglesias Casal, Isabel, and Carmen Ramos Méndez. (2020). "Competencia comunicativa intercultural y enseñanza de español LE/L2: Antecedentes, estado actual y perspectivas futuras." *Journal of Spanish Language Teaching*, vol. 7, no. 2, pp. 99–122, doi:10.1080/23247797.2020.1853367.
- Incalcaterra McLoughlin, Laura, et al. (2020) *Audiovisual Translation in Applied Linguistics: Educational Perspectives*. John Benjamins.
- Inghilleri, Moira. (2020). "Ethics." *Routledge Encyclopedia of Translation Studies*, edited by Mona Baker and Gabriela Saldanha. Routledge, pp. 160–67, doi:10.4324/9781315678627.
- Jakobson, Roman. (1959/2004). "On Linguistic Aspects of Translation." *The Translation Studies Reader*, edited by Lawrence Venuti, Routledge, pp. 138–43.
- Jiménez-Crespo, Miguel A. (2017). "The Role of Translation Technologies in Spanish Language Learning." *Journal of Spanish Language Teaching*, vol. 4, no. 2, pp. 181–93, doi:10.1080/23247797.2017.1408949.
- Jisc (2014). "Developing Digital Literacies," www.jisc.ac.uk/guides/developing-digital-literacies.
- Jolley, Jason, and Luciane Maimone. (2022). "Thirty Years of Machine Translation in Language Teaching and Learning: A Review of the Literature." *L2 Journal*, vol. 14, no. 1, pp. 26–44, doi:10.5070/L214151760.
- Killman, Jeffrey. (2018). "A Context-Based Approach to Introducing Translation Memory in Translator Training." *Translation, Globalization and Translocation*, edited by Concepción B. Godev, Palgrave Macmillan, pp. 137–60.
- King Ramírez, Carmen, and Barbara Lafford. (2017). "Mentors' Perspectives on Professional Internships: Rewards, Challenges and Future Directions." *Creating Experiential Learning Opportunities for Language Learners: Acting Locally while Thinking Globally*, edited by Melanie Bloom and Carolyn Gascoigne, pp. 135–59. Routledge.
- King de Ramírez, Carmen, Barbara A. Lafford, and James E. Wermers. (2021). *Online World Language Instruction Training and Assessment: An Ecological Approach*, Georgetown UP.
- Klee, Carol A., and Manel Lacorte. (2021). "La sociolingüística en la enseñanza del español como lengua segunda y lengua de herencia." *Journal of Spanish Language Teaching*, vol. 8, no. 2, pp. 182–194, doi: 10.1080/23247797.2021.2025676.
- Klimova, Blanca, et al. (2023). "A Systematic Review on the Use of Emerging Technologies in Teaching English as an Applied Language at the University Level." *Systems*, vol. 11, no. 42, doi:10.3390/systems11010042.
- Knowles, Clare Louise. (2016). *Investigating Instructor Perceptions of Online Machine Translation and Second Language Acquisition within Most Commonly Taught Language Courses*, The University of Memphis, PhD dissertation.
- Kolb, Dale A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*, Prentice-Hall.

- Kratz, Dennis M. (2012). "The Academic Future of Translation Studies." *Translation Review*, vol. 83, no. 1, pp. 5–7, doi:10.1080/07374836.2012.703447.
- Kress, Gunther and Theo van Leeuwen, T. (2001). *Multimodal Discourse: The Modes and Media of Contemporary Communication*. Arnold.
- Lafford, Barbara A. (2023). "Afterword." *Methods in Study Abroad Research: Past, Present and Future*, edited by Cristina Sanz and Carmen Pérez Vidal, John Benjamins, pp. 373–82.
- . (2015). "Implications of LSP Curricular Design for Mainstream World Language Classes." *CASLS InterCom*, <https://caslsintercom.uoregon.edu/content/19318>.
- . (2009). "Toward an Ecological CALL: Update to Garrett (1991)." *The Modern Language Journal*, vol. 93, no. 1, pp. 673–96, doi:10.1111/j.1540-4781.2009.00966.x.
- Laviosa, Sara. (2007). "Learning Creative Writing by Translating Witty Ads." *The Interpreter and Translator Trainer*, vol. 1, no. 2, pp. 197–222.
- Lear, Darcy. (2021). "Domain Analysis: Research-Based Reverse Design for Languages for Specific Purposes." *Foreign Language Annals*, vol. 54, no. 1, pp. 139–57, doi:10.1111/flan.12509.
- . (2019). *Integrating Career Preparation into Language Courses*. Georgetown UP.
- Lee, Sangmin-Michelle, and Neil Briggs. (2021). "Effects of Using Machine Translation to Mediate the Revision Process of Korean University Students' Academic Writing." *ReCALL*, vol. 33, no. 1, pp. 18–33, doi:10.1017/S0958344020000191.
- Lee, Tong King. 2018. *Applied Translation Studies*. Palgrave.
- Loza, Sergio, and Sara M. Beaudrie, editors. (2022). *Heritage Language Teaching: Critical Language Awareness Perspectives for Research and Pedagogy*. Routledge.
- Maitland, Sarah. (2017). *What is Cultural Translation?* Bloomsbury.
- Malakul, Sivakorn, and Innwoo Park (2023). "The Effects of Using an Auto-subtitle System in Educational Videos to Facilitate Learning for Secondary School Students: Learning Comprehension, Cognitive Load, and Satisfaction." *Smart Learning Environments*, vol. 10, no. 4, doi:10.1186/s40561-023-00224-2.
- Martínez Martínez, Inmaculada. (2019). "Lingüística de corpus y gramática inductiva: Cómo trabajar con los corpus en la clase de español de los negocios." *Actas del VI Congreso Internacional de Español para Fines Específicos*, edited by Anna Escofet et al., Consejería de Educación en Bélgica, Países Bajos y Luxemburgo, pp. 87–100.
- McDougall, Julian, et al. (2019). "Digital Literacy, Fake News and Education / Alfabetización digital, fake news y educación." *Cultura y Educación*, vol. 31, no. 2, pp. 203–12, doi:10.1080/11356405.2019.1603632.
- McLaughlin, Martin, and Javier Muñoz-Basols. (2016). "Ideology, Censorship and Translation Across Genres: Past and Present." *Perspectives: Studies in Translation Theory and Practice*, vol. 24, no. 1, pp. 1–6, doi:10.1080/0907676X.2016.1095579.
- Mellinger, Christopher, and Laura Gasca-Jiménez. (2019). "Retos y oportunidades para hablantes de lenguas de herencia en cursos de interpretación en el contexto estadounidense." *Revista Signos*, vol. 52, no. 101, pp. 950–74.
- Merschel, Lisa, and Joan Munné. (2022). "Perceptions and Practices of Machine Translation Among 6th–12th Grade World Language Teachers." *L2 Journal*, vol. 14, pp. 60–76, doi:10.5070/L214154165.
- Mok, Aaron. (2023). "A Wharton Business School Professor Is Requiring his Students to Use ChatGPT." *Business Insider*, www.businessinsider.com/wharton-mba-professor-requires-students-to-use-chatgpt-ai-cheating-2023-1.
- Moreno Clemons, Aris and Almeida Jacqueline Toribio. (2021). "Racializing Latinx Bilinguals in K-12 Language Learning Classrooms in the United States." *Journal of Spanish Language Teaching*, vol. 8, no. 2, pp. 129–42, doi:10.1080/23247797.2021.2016228.
- Munday, Jeremy. (2014). "Using Primary Sources to Produce a Microhistory of Translation and Translators: Theoretical and Methodological Concerns." *The Translator*, vol. 20, no. 1, pp. 64–80.
- Muñoz-Basols, Javier, Mara Fuertes Gutiérrez, and Luis Cerezo, eds. (2023; forthcoming). *La enseñanza del español mediada por tecnología*. Routledge.

- Muñoz-Basols, Javier, and Mara Fuertes Gutiérrez. (2023; forthcoming). "Interacción en entornos virtuales de aprendizaje / Interaction in Virtual Learning Environments." *La enseñanza del español mediada por tecnología*, edited by Javier Muñoz-Basols, Mara Fuertes Gutiérrez, and Luis Cerezo. Routledge.
- Muñoz-Basols, Javier. (2019). "Going Beyond the Comfort Zone: Multilingualism, Translation and Mediation to Foster Plurilingual Competence." *Language, Culture and Curriculum*, vol. 32, no. 3, pp. 299–321, doi:10.1080/07908318.2019.1661687.
- Muñoz-Basols, Javier, and Marina Massaguer Comes. (2018). "Social Criticism through Humour in the Digital Age: Multimodal Extension in the Works of Aleix Saló." *European Comic Art*, vol. 11, no. 1, pp. 107–28, doi:10.3167/eca.2018.110107.
- Muñoz-Basols, Javier, and Micaela Muñoz-Calvo. (2015). "La traducción de textos humorísticos multimodales." *La traducción: Nuevos planteamientos teórico-metodológicos*, edited by María Azucena Penas Ibáñez, Síntesis, pp. 159–84.
- Nord, Christiane. (2001). *Translating as a Purposeful Activity: Functionalist Approaches Explained*. Shanghai Foreign Language Education Press.
- Nunan, David. (2004). "What Is Task-Based Language Teaching?" *Task-Based Language Teaching*, Cambridge UP, pp. 1–18, doi:10.1017/CBO9780511667336.002.
- Ortega, Lourdes. (2017). "New CALL-SLA Interfaces for the 21st Century: Towards Equitable Multilingualism." *CALICO Journal*, vol. 34, no. 3, pp. 285–316.
- Partnership for 21st Century Learning. (2019). *Framework for 21st Century Learning Definitions*. Battelle for Kids, www.battelleforkids.org/networks/p21/frameworks-resources.
- Paul, Richard, and Linda Elder. (2010/2019). *The Miniature Guide to Critical Thinking Concepts & Tools*. Rowman & Littlefield.
- Piccardo, Enrica. (2019). "We Are All (Potential) Plurilinguals': Plurilingualism as an Overarching, Holistic Concept." *Cahiers de l'ILOB*, vol. 10, pp. 183–204, doi:10.18192/olbiwp.v10i0.3825.
- Pintado Gutiérrez, Lucía. (2021). "Translation in Language Teaching, Pedagogical Translation, and Code-Switching: Restructuring the Boundaries." *The Language Learning Journal*, vol. 49, no. 2, pp. 219–39, doi:10.1080/09571736.2018.1534260.
- Pintado Gutiérrez, Lucía, and Gloria Torralba. (2022). "New Landscapes in Higher Education: Audio Description as a Multilayered Task in FL Teaching." *The Language Learning Journal*, doi:10.1080/09571736.2022.2158209.
- Plews, John, et al. (2023). "Diaries and Journals in Study Abroad Research," *Methods in Study Abroad Research: Past, Present and Future*, edited by Cristina Sanz and Carmen Pérez Vidal, John Benjamins, pp. 109–34.
- Reinhardt, Jonathon, and Ana Oskoz. (2021). "Twenty-Five Years of Emerging Technologies." *Language Learning & Technology*, vol. 25, no. 3, pp. 1–5, doi: 10125/73442.
- Rico, Celia, and Diana Pastor. (2022) "The Role of Machine Translation in Translation Education: A Thematic Analysis of Translator Educators' Beliefs." *Translation & Interpreting*, vol. 14, no. 1, pp. 177–97, doi:10.12807/ti.114201.2022.a010.
- Riconscente, Michelle, et al. (2016). "Evidence-Centered Design." *Handbook of Test Development*, edited by Suzanne Lane et al., Routledge, pp. 40–63.
- Risku, Hanna. (2016). "Situated Learning in Translation Research Training: Academic Research as a Reflection of Practice." *The Interpreter and Translator Trainer*, vol. 10, no. 1, pp. 12–28.
- Rose, Gillian. (2007). *Visual Methodologies: An Introduction to the Interpretation of Visual Materials*. Sage.
- Ruggiero, Diana. (2022). *Teaching World Languages for Specific Purposes*. Georgetown UP.
- Sánchez Cuadrado, Adolfo. (2017). "Validación empírica del potencial pedagógico de la traducción: La atención a la forma en actividades colaborativas de traducción." *Journal of Spanish Language Teaching*, vol. 4, no. 2, pp. 136–51, doi:10.1080/23247797.2017.1408970.
- Shadiev, Rustam, and Jiawen Liu. (2023). "Review of Research on Applications of Speech Recognition Technology to Assist Language Learning." *ReCALL*, vol. 35, no. 1, pp. 74–88, doi:10.1017/S095834402200012X.

- Si, Qi, et al. (2022). "A Synthesis of How Multimodal Literacies Impact Emergent Bilingual Students' Literacy and Cultural Identities." *Multimodal Literacies in Young Emergent Bilinguals: Beyond Print-Centric Practices*, edited by Sally Brown and Ling Hao. Multilingual Matters, pp. 1–16. <https://doi.org/10.21832/9781800412361-004>.
- Slatyer, Helen, and Sarah Forget. (2019). "Digital Translation: Its Potential and Limitations for Informal Language Learning." *The Handbook of Informal Language Learning*, edited by Mark Dressman and Randall William Sadler, John Wiley, pp. 441–56.
- Sleator, Laurence, and Michael Hennessey. (2023). "Almost Half of Cambridge Students Admit They Have Used ChatGPT." *The Times*, <https://www.thetimes.co.uk/article/cambridge-university-students-chatgpt-ai-degree-2023-rnsv7mw7z> Accessed 22 Apr. 2023.
- Sobel, David. (2004). "Place-Based Education: Connecting Classroom and Community." *Nature and Listening*, vol. 4, no. 1, pp. 1–7, <https://files.eric.ed.gov/fulltext/EJ1183171.pdf>.
- Stanley, Todd. (2019). *Case Studies and Case-Based Learning. Inquiry and Authentic Learning that Encourages 21st-Century Skills*. Proofrock Press.
- State University of New York (SUNY) COIL Center. SUNY COIL: Connect, Engage, Collaborate, <https://coil.suny.edu/>. Accessed 30 Jan. 2023.
- Stokel-Walker, Chris. (2022). "AI Bot ChatGPT Writes Smart Essays: Should Professors Worry?" *Nature*, doi:10.1038/d41586-022-04397-7.
- Sun, Peijian Paul, and Bing Mei. (2022). "Modeling Preservice Chinese-as-a-Second/Foreign-Language Teachers' Adoption of Educational Technology: A Technology Acceptance Perspective." *Computer Assisted Language Learning*, vol. 35, no. 4, pp. 816–39, doi:10.1080/09588221.2020.1750430.
- Taylor, Christopher. (2013). "Multimodality and Audiovisual Translation." *The Handbook of Translation Studies*, edited by Yves Gambier and Luc van Doorslaer, John Benjamins, pp. 98–104.
- Torresi, Ira. (2007). "Translating Dreams across Cultures: Advertising and the Localization of Consumerist Values and Aspirations." *Betwixt and Between: Place and Cultural Translation*, edited by Stephen Kelly and David Johnston, Cambridge Scholars, pp. 135–45.
- Thomas, Michael, and Kasumi Yamazaki, editors. (2021). *Project-Based Language Learning and CALL: From Virtual Exchange to Social Justice*. Equinox.
- Tyulenev, Sergey. (2014). *Translation and Society: An Introduction*. Routledge.
- van Laar, Ester, et al. (2017). "The Relation between 21st-Century Skills and Digital Skills: A Systematic Literature Review." *Computers in Human Behavior*, vol. 72, 577–88, doi:10.1016/j.chb.2017.03.010.
- van Lier, Leo. (2004). *The Ecology and Semiotics of Language Learning*. Kluwer Academic.
- Vinall, Kimberly, and Emily Hellmich. (2022). "Do You Speak Translate?: Reflections on the Nature and Role of Translation." *L2 Journal*, vol. 14, no. 1, pp. 4–25, doi:10.5070/l214156150.
- Wang, Xinli. (2007). *Incommensurability and Cross-Language Communication*. Routledge, doi: 10.4324/9781315252476.
- Wiggins, Grant P., and Jay McTighe. (2005). *Understanding by Design*. ASCD.