METHODOLOGIES AND TECHNOLOGIES IN FOREIGN LANGUAGE TEACHING AND TEACHER TRAINING INTERLACED IN VIRTUAL EXCHANGE

METODOLOGIAS E TECNOLOGIAS DE ENSINO DE LÍNGUAS ESTRANGEIRAS E DE FORMAÇÃO DE PROFESSORES ENTRELAÇADAS EM INTERCÂMBIOS VIRTUAIS

METODOLOGÍAS Y TECNOLOGÍAS DE ENSEÑANZA DE LENGUAS EXTRANJERAS Y FORMACIÓN DOCENTE INTERRELACIONADAS EN INTERCAMBIOS VIRTUALES

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ABSTRACT: The article focuses on the integration of technologies into foreign language teaching methodologies and teacher education. With this aim, the paper analyzes the incorporation of digital technologies in teaching-learning methodologies and foreign language teacher education courses through the use of virtual exchanges in an English teacher education course offered before, during, and after the pandemic. The methodology used to analyze the experiences of the two teacher-researchers involved in the practicum course where virtual exchange projects were integrated before, during, and after the pandemic is autoethnographic. Overall, the analysis suggests that the incorporation of technologies in the form of virtual exchange projects into teacher education suffered from the lack of institutional support both before and after the COVID-19 pandemic.

KEYWORDS: Technologies. Methodologies. Teaching-learning. Language Teacher Education. Foreign languages.

RESUMO*: O artigo visa refletir sobre a integração de tecnologias em metodologias de ensino de línguas estrangeiras e na formação de professores. Com esse objetivo, o estudo analisa a integração de tecnologias digitais em metodologias de ensino-aprendizagem e de formação de professores de língua estrangeira, por meio da incorporação de intercâmbios virtuais em um curso de formação de professores de inglês oferecido antes, durante e após a pandemia. A metodologia empregada para analisar as experiências das duas professoras e pesquisadoras envolvidas no estágio, onde os intercâmbios virtuais foram incorporados antes, durante e após a pandemia, é a autoetnografia. De maneira geral, a análise sugere que a incorporação de tecnologias na forma de intercâmbios virtuais na formação de professores enfrentou desafios relacionados à falta de apoio institucional antes e após a pandemia da COVID-19.*

PALAVRAS-CHAVE*: Tecnologias. Metodologias. Ensino-aprendizagem. Formação de professores de línguas. Línguas estrangeiras.*

RESUMEN*: El objetivo principal de este artículo es reflexionar sobre la integración de las tecnologías en las metodologías de enseñanza de lenguas extranjeras y en la formación del profesorado. Con este objetivo, el trabajo analiza la integración de las tecnologías digitales en las metodologías de enseñanza-aprendizaje y en la formación de profesores de lenguas extranjeras a través de la incorporación de intercambios virtuales en un curso de formación de profesores de inglés ofrecido antes, durante y después de la pandemia. La metodología utilizada para analizar las experiencias de los dos docentes/investigadores involucrados en la disciplina de prácticas donde se incorporaron intercambios virtuales antes, durante y después de la pandemia es auto-etnográfica. En general, el análisis sugiere que la incorporación de tecnologías en forma de intercambios virtuales incorporados en la formación docente sufrió la falta de apoyo institucional antes y después de la pandemia da COVID-19.*

PALABRAS CLAVE*: Tecnologías. Metodologías. Enseñanza-aprendizaje. Formación de profesores de idiomas. Idiomas extranjeros.*

Introduction

In order to overcome the challenges of using and teaching foreign languages (FL) in today's world, contemporary teacher training must align with the possibilities and challenges posed by the use and integration of digital technologies in teaching-learning methodologies and teacher education (Rabello, 2021; Finardi, 2015). This work represents a contribution in this direction by dedicating itself to the analysis of the integration of digital technologies in teaching-learning methodologies and foreign language teacher education through the incorporation of virtual exchanges (hereinafter VE) at different moments of an English teacher education course, before, during, and after the pandemic.

In this work, social practices are analyzed as being mediated by various technologies. Methodologies, in turn, mediate teaching and learning processes, as well as teacher education, areas that, since the COVID-19 pandemic, have shown remarkable centrality in personal, professional, and pedagogical contexts (Rabello, 2021; Vetromille-Castro; Kieling, 2022). Therefore, in this study, digital technologies are understood to have a crucial mediating role (Vygotsky, 1987, 1991), focusing on their impact on the teaching methodologies employed in the foreign language teaching-learning process and in language teacher education.

Among the various possibilities for applying technologies in FL teaching-learning and teacher education, the internet and information and communication technologies (ICTs) have considerable potential. These technologies, when incorporated into language teaching and learning methodologies, can enrich both FL teaching-learning and language teacher education (Finardi, Porcino, 2014). Freeman (2001) argues that teacher education constitutes the sum of experiences acquired during the process of learning an FL, emphasizing the importance of including technologies in FL teaching methodologies and language teacher education.

The integration of virtual exchange (VE) projects in FL teaching-learning and FL teacher education has the potential to foster collaborative learning, grounded in intercultural awareness and specific interdisciplinary content of the discipline. By promoting engagement among students and between students and teachers, VE facilitates teaching and learning by connecting geographically distant teachers, tutors, and students, who are speakers of different native languages (L1), in authentic communication and collaboration through the mediation of the FL and digital technologies.

The incorporation of IV projects into foreign language teaching and teacher training methodologies is a significant strategy for mediation and social interaction (Vygotsky, 1987,

1991). In this sense, there is advocacy for the creation of a curriculum that provides opportunities, practices, and resources that are socially, culturally, historically, and institutionally situated, and relevant to the community involved.

It is understood that IV constitutes an innovative pedagogical approach, providing students and teachers with opportunities for contextualized learning and the use of language in authentic contexts, through multiple perspectives of collaboration.

The use of technology in foreign language teaching and learning is not new. Approaches such as Computer-Assisted Language Learning (CALL) (Rabello, 2021), Content and Language Integrated Learning (CLIL) (Finardi, 2015; Hildeblando Júnior, Finardi, El Kadri, 2022), Massive Open Online Courses (MOOCs) (Tyler; Finardi, 2021), Mobile Assisted Language Learning (MALL) (Finardi; Leão; Amorim, 2016), Flipped Classroom (Finardi; Prebianca; Schmitt, 2016), Collaborative Online International Learning (COIL) (Hildeblando Júnior, 2019), and WebQuests (Porcino; Finardi, 2016), to name a few examples, have already presupposed the use of digital technologies in language teaching and learning.

However, it was only after the pandemic that this integration of technologies into foreign language teaching and teacher training methodologies became a reality/necessity for some higher education institutions due to their contingent use for the continuity of classes in institutions, even though teachers and students had not been trained to handle ICTs as educational resources (Có; Amorim; Finardi, 2020; Finardi, 2015; Hildeblando Júnior; Finardi; El Kadri, 2022).

In order to analyze the potential of technologies used in foreign language teaching methodologies and teacher training, this study will focus on the analysis of virtual exchanges carried out as part of the methodology used in the Supervised Curricular Internship course conducted before, during, and after the pandemic. The course in which IV projects were integrated into the teacher training curriculum analyzed here is offered in the final periods of the English Language Teaching degree program at a federal university in southeastern Brazil.

Methodology

An autoethnographic methodology was adopted to conduct a thorough and detailed analysis of the virtual exchange (IV) projects integrated into the English Supervised Internship course. Data collection instruments included diaries and observation reports, as well as self-observation by the teacher-researchers involved in this course (Pardo, 2019). Autoethnography is a research approach characterized by the researcher's dual roles, acting both as subject and object of study, analyzing their own experience from an internal perspective, or "emic". Thus, autoethnography involves the researcher's observations and self-observations about themselves and the research field, accompanied by meticulous interpretations and reflections, aiming to capture the complexities of experienced realities (Pardo, 2019).

The participating researchers in the course had intertwined roles in teacher education and research, with significant autoethnographic observations. Researcher/Author 1 was involved in the Supervised Internship course from 2019 to 2022 in different capacities: initially as a student, later as a master's internship trainee in teaching, and finally as a researcher in her master's research. Researcher/Author 2 held roles as a supervising teacher in the Supervised Internship course and as a supervisor for the graduation and master's theses of the student-researcher-teacher 1.

In this work, the autoethnographic methodology will be used to conduct a reflective analysis of the IV projects integrated into the English teacher education methodology, specifically in the Supervised Internship course, offered as part of the English Language program at a Federal University in the Southeast. The analysis will occur in three distinct moments: (1) IV before the pandemic (Brazil-Chile), (2) IV during the pandemic (Brazil-Spain), and (3) IV after the pandemic (Brazil-Turkey). Based on these experiences, observations will be made regarding the role of technologies in teacher education and the integration of IV projects into foreign language teaching and teacher training methodologies. Subsequently, the IV projects will be contextualized in these three periods before proceeding to a detailed analysis and discussion.

Contextualization

During the period of face-to-face teaching prior to the pandemic, the methodology employed in the Supervised Internship course consisted of: (1) face-to-face classes at the university and individual and group/team meetings in the internship field; (2) discussion of mandatory reading texts related to the experienced practice; (3) co-participation/co-teaching activities, developed with the regular teacher in basic education and the supervising teacher of the university course, including planning, preparation of teaching materials, and teaching; (4) presentation of a final internship report, critically detailing the experiences lived and the activities developed.

During the pandemic, restrictions imposed by social distancing, the asynchrony between the academic calendars of the university and schools, and many schools not operating in-person or accepting interns, hindered the conduct of field activities. Thus, the classes of the Supervised Internship course were conducted in the format of Emergency Remote Teaching (ERT). The professor responsible for the course chose to include virtual exchange (IV) projects as a strategy to bring students closer to the school context (in this case, in another country, as it was not possible to carry out within Brazil) during ERT. Before the pandemic, the same teacher had already offered students the opportunity to engage in an IV project, but interactions were limited to two meetings due to structural restrictions at the university. After the pandemic, and with the return to face-to-face teaching, the teacher once again offered students the opportunity to participate in an IV project as a supplementary activity, thus not integrating into the official workload of the course.

IV partnerships were established with teacher educators responsible for equivalent courses at partner foreign universities, corresponding to the students' field locations. In total, four IV projects were carried out with universities located in Chile, England, Spain, and Turkey, one project before the pandemic (Chile), two during the pandemic (England and Spain), and one after the pandemic (Turkey).

In the following sections, the role of technologies in teacher education before, during, and after the pandemic will be described and discussed, focusing on the integration of IV projects into the methodology of the Supervised Internship course.

Before the pandemic (2019) - IV Brazil-Chile

Even before the pandemic, the professor responsible for the Supervised Internship course recognized the importance of integrating technologies and active approaches in language teacher education, having adopted hybrid teaching methods (Hildeblando Júnior, 2019). As a strategy to expand interaction possibilities and teacher education, this professor, in collaboration with master's students in teaching internships in the same course, decided to integrate a virtual exchange (IV) project in partnership with foreign English teachers (and in training) who shared the same profile as the Brazilian teachers in training, i.e., they were teachers of English as a second language (L2), having another language as their first language (L1).

This IV experience, conducted before the pandemic, took place within the internship or practice context of both universities, in Brazil and Chile (Hildeblando Júnior, 2019). The topics addressed among the IV participants mainly focused on English teaching in both countries, including the methodologies and teaching experiences of the participants (pre-service teachers). Local programs promoting English-mediated internationalization, such as "I*diomas sem Fronteiras*" (Languages without Borders) in Brazil and "*Inglés Abre Puertas*" (English Opens Doors) in Chile, were also discussed, highlighting the relevance of this language in the context where the IV took place, being used both as a lingua franca for communication among participants and as a language to be taught by future teachers. Activities included readings on the topics of the classes, classroom discussions, and asynchronous and synchronous interactions (only two) among participants for discussion and sharing of experiences related to the class themes.

The results of this experience suggest that digital technologies can promote interculturality in language teacher education by connecting geographically distant individuals who do not have the possibility to participate in traditional international academic, physical mobilities. Additionally, digital technologies facilitated contact with different languages, as participants alternated between Portuguese (L1 for Brazilians), Spanish (L1 for Chileans), and English (L2 for all) during the IV project interactions, although most interactions occurred in English, the group's only lingua franca.

The mediation of technology, in the Brazil-Chile contexts, enabled interaction and shared learning among participants. However, structural and institutional limitations significantly impacted the planning of online activities. In 2019, the Brazilian university had

only one video conferencing room suitable for synchronous online interactions, but this room was primarily reserved for dissertation and thesis defenses, with very limited availability for classes. Additionally, the space was limited in terms of seating capacity.

Due to the difficulty in obtaining a suitable physical space for connection with the Chilean class, only two synchronous meetings were held between the two classes. The remaining activities had to be conducted in an asynchronous Flipped Classroom format[3](Finardi, Prebianca, Schmitt, 2016) where students read texts at home and are prepared to discuss them synchronously in class. The university's regular classrooms did not have adequate internet connection for the planned interactions. Therefore, the mediation of teaching and learning processes through digital technologies was hindered by this limitation of available spaces and technologies for virtual exchange sessions, reflecting, to some extent, an institutional infrastructure deficiency in the Brazilian university, especially compared to the infrastructure available at the Chilean university.

During the pandemic (2020-2021) IV Brazil - Spain

In the semesters of 2020-2, 2021-1, and 2021-2, the course was offered in the format of Emergency Remote Teaching (ERT) with the following objectives: (a) to experience co-participation in the remote teaching of English in primary education; (b) to identify teaching methodologies and the theoretical/practical relationship in various educational realities affected by social isolation; (c) to monitor pedagogical actions aimed at teaching English and its developments during the isolation period; (d) to identify strategies used for remote teaching of English during the pandemic; (e) to participate in the selection, organization of content, and production of teaching materials for remote English teaching; (f) to critically analyze the educational and didactic-pedagogical processes that occurred during the period of social isolation and in the EAR format.

As a pedagogical strategy, faced with the restrictions imposed by the pandemic, each semester of 2021 incorporated a virtual exchange (IV) project as an integral part of the course content and within the established workload. The objective of these IV projects was to provide teachers in training with opportunities for contact and exchange of experiences with other educators in similar situations, considering different internship contexts and the possibility of

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[3]The flipped classroom is an active learning methodology that reverses the order of activities from the traditional teaching model. Students watch/read content at home and then discuss/interact in the classroom.

intercultural interaction. Additionally, the aim was to promote the development of more inclusive internationalization processes, in the form of Internationalization at Home (IaH) and Internationalization of the Curriculum (IoC), considering the challenges presented by the pandemic.

Furthermore, the integration of IV projects in the course during the pandemic aimed to provide a point of contact with the internship field, considering that schools in Brazil were closed or unable to accept interns due to pandemic safety protocols, and the lack of synchrony between the academic calendars of schools and the Brazilian university. Each of the projects is described below.

Period: 2021-1

The IV project between the Brazilian university and the English university aimed to promote the adoption of a hybrid flipped classroom approach (Finardi; Prebianca; Schmitt, 2016) in English teacher education, while providing participants, in their local contexts, the opportunity to engage in a global community of English teaching practice through a Massive Open Online Course (MOOC) (Tyler, Finardi, 2021). The project also aimed to promote the development of critical digital literacy and intercultural competence of the participants (Dervin, Liddicoat, 2013) through themes based on the Task-Based Approach (TBA) (Calvert, Sheen, 2015); (b) Content and Language Integrated Learning (CLIL) (Finardi, 2015); (c) development of Intercultural Communicative Competence (CCI); and (d) use of English as a lingua franca (Dervin, Liddicoat, 2013) among participants. Activities included collaborative interactions and discussions in smaller groups and with the entire class, as well as the completion of collaborative tasks on the theme using alternative platforms (Padlet, Kahoot, and Socrative) that facilitated engagement and exchange of experiences among participants.

In total, this project involved 29 participants and lasted for five weeks, engaging participants from different nationalities and using English as a lingua franca. As the project involved different institutional contexts, there was a combination of hybrid formats (in Spain) and Emergency Remote Teaching (ERT) (in Brazil), through the Flipped Classroom approach (Finardi; Prebianca; Schmitt, 2016). Before synchronous meetings, participants watched mini-lectures on the covered content and completed activities from the Massive Open Online Course (MOOC) (Tyler; Finardi, 2021).

Synchronous meetings were conducted in English and held via the Zoom platform, utilizing the breakout rooms functionality, allowing interaction with smaller groups – unlike previous projects that did not use platforms with this option. Each meeting lasted between one and one and a half hours, with the first twenty minutes dedicated to the presentation of the topic. The second part of the synchronous meeting, lasting about thirty minutes, took place in focus groups (through breakout rooms) facilitated by a tutor.

During this second part, participants engaged in collaborative tasks assigned to the groups on other platforms such as Padlet, Kahoot, and Socrative, enabling greater engagement among members and sharing of their experiences. The last part of each meeting, lasting about thirty minutes, was dedicated to a collective discussion of the themes based on collaborative group work. The main ideas from each group were presented by a representative, elected at each meeting, who should be different for each synchronous session. Subsequently, the meeting concluded and was adjourned.

The project was based on a combination of synchronous and asynchronous communication, in a Flipped Classroom format (Finardi; Prebianca; Schmitt, 2016). The Massive Open Online Course (MOOC) (Tyler, Finardi, 2021) represented one of the main tools used by participants during this project. The course was centered around activities that emphasized skill development through the completion of tasks in asynchronous discussion forums. Pedagogically, asynchronous text-based communication provided English teachers in training with the opportunity to review and reflect on key concepts of English teaching and learning, as well as other relevant topics in their education. The incorporation of the MOOC into the project also facilitated the participants' training and the development of an international community of practice, offering opportunities for learning and discussions with other students, teachers, and professionals in English teaching, transcending, to some extent, the geographical barriers that separated the course participants.

The MOOC transformed the roles of instructors and participants during the learning process, challenging traditional views of knowledge producers/receivers and favoring a student-centered approach. In this format, the role of the instructor or tutor evolved from a "knowledge provider" to a facilitator, encouraging participants to explore and reflect independently and autonomously on the course's proposed issues. Thus, participants transitioned from passive learning to active knowledge exploration, facilitated by the mediation of digital technologies in synchronous and asynchronous formats.

Overall, students and pedagogical staff involved in the project perceived that the IV contributed to the intercultural development of the participants, although they noted that the interaction time in breakout rooms was insufficient to develop deeper contact with foreign participants. Additionally, some mediation difficulties were noted, such as the deactivation of cameras and microphones by some participants during interactions.

Period: 2021-2

This project was conducted between a Brazilian university and a Spanish university through the Teams platform, with the aim of exchanging teaching and learning experiences in both contexts through authentic internet interaction and English as a lingua franca. The topics discussed included the concept of "task" (Calvert; Sheen, 2015), CLIL (Finardi, 2015), multiliteracies, online teaching and learning, as well as the role of English as ELF/EFL in Brazil and Spain. The project involved 42 participants and lasted for four weeks. Among the digital tools used were Padlet, Kahoot, Socrative, and other resources from the Teams platform.

The content was made available on the platform for pre-access to synchronous meetings, including links to videos related to the lesson topics that served as complementary content, aiming to build knowledge collaboratively. In this platform, asynchronous discussions (via text) of the proposed contents also took place, enriching the learning processes through different sociocultural perspectives.

During synchronous interactions on the Teams platform, pre-service English teachers developed a deeper understanding of participants from other cultures, particularly regarding their attitudes, values, and ways of thinking. This understanding was achieved through discussions, exchanges of experiences, and dialogues related to lesson topics, especially within the breakout rooms. Additionally, participants reflected on the use and appropriation of the English language and how culture is addressed in traditional English teaching, with direct implications for pedagogical practices. In each synchronous meeting, pre-service teachers engaged in collaborative activities in the breakout rooms, seeking to enhance their teamwork skills and intercultural communication.

The activities were structured as follows: teacher trainers presented written questions based on content from texts that participants should have previously read related to the lesson topic, such as multiliteracies, Task-Based Language Learning (TBLT), and CLIL, among others. Participants then discussed these questions dialogically in the breakout rooms, relating

them to their own experiences. After the discussion, one participant from each group shared a summary of the debate with the entire class. Subsequently, participants recorded and interactively reflected on the themes in Padlet.

As an example, in one of the lessons, participants from a group compared their experiences of learning English in Spain and Brazil with the TBLT proposal. During the discussions, they criticized the focus on grammar and the instrumentality of teaching, which contradicts the emphasis of TBLT on communication and the meaning of the language. While discussing, participants formulated questions among themselves to deepen their understanding of the lesson topic and the shared experiences.

To promote participant engagement in interactions, some digital tools, such as Padlet, Kahoot, and Socrative, were used during synchronous meetings. These tools facilitated reflection and understanding of key concepts, in addition to contributing to the development of participants' digital literacy.

Figure 1 - Padlet created by IV participants

Source: Authors' personal collection.

In addition to other aspects already mentioned here, the IV project provided pre-service teachers with opportunities for collaborative learning and linguistic practice in an authentic context, through synchronous and asynchronous interactions mediated by technology.

After the pandemic (2022) Period: 2022-1 - IV Brazil - Turkey

Following the return to in-person activities at the institution under study, the teacher chose to continue international partnerships in IV projects in the same discipline. However, this time, she had to offer the IV project as an additional activity, as the institution no longer allowed the full integration of remote teaching into curricular methodologies and activities after the return to the in-person format. Thus, the teacher offered an IV project in partnership with a university in Turkey as an optional and non-mandatory activity of the discipline. Out of the 26 students enrolled in the Supervised Internship discipline in 2022-1, only 4 participated in the IV project with Turkey.

The low student participation can be interpreted as a lack of understanding of the benefits of participating in IV projects. However, it may also reflect students' difficulty in engaging in projects in this format after returning to in-person classes, as the university does not provide spaces for students to connect synchronously and privately during breaks between classes. In this context, students would have to bring their equipment to the university or connect when they were at home, at times not always compatible with the activities of partner universities. This situation once again highlights the lack of support and structure from Institution A to leverage the benefits of technological mediation, integrate IV projects into the curriculum of disciplines, and aim to promote IeC and IdC.

The aim of this IV project was to provide pre-service English teachers from both institutions with experience in using technology to collaborate with other educators at the same level of instruction and training. To achieve this, the Turkish and Brazilian teams worked together to compare and reflect on their experiences of teaching and learning English as a foreign language in their respective contexts, aiming at the development of intercultural, linguistic, and professional skills.

The topics addressed during the collaboration included: (a) introduction, sharing of personal and academic information, as well as expectations and goals for the collaboration; (b) presentation and discussion of the participants' academic contexts, using digital technologies; (c) comparison of similarities and differences between English teaching in Brazil and Turkey; and (d) reflection and development of a cultural activity or task. To create these activities, participants could employ digital tools such as AnswerGarden and Bamboozle Canva, among others.

The project involved a total of 29 participants and lasted for six weeks, with interactions taking place in English as a lingua franca. The members were divided into four fixed groups, each mediated by a tutor, with whom they also maintained asynchronous contact through WhatsApp groups. Additionally, a Moodle platform was provided for students to complete weekly activities and submit their reflections before the weekly synchronous meeting. This platform allowed for sharing content in video, audio, image, and text formats.

Once a week, participants gathered for a synchronous meeting, lasting between one and one and a half hours, with the tutor responsible for the group, to discuss the theme of the week. The timings of these synchronous meetings were agreed upon between the tutor and the participants. Furthermore, the choice of platform for synchronous interaction was collectively decided by the group, which could be Zoom, Google Meet, or Teams. On average, participants dedicated four hours per week to develop synchronous and asynchronous activities during the project. Finally, a collective synchronous closing session took place, with the participation of all to share experiences and reflect on the project.

The Moodle platform used in the project was fueled by the concept of co-constructed teaching, contrasting with the traditional process of passive knowledge acquisition. In addition to tasks promoting discussion about differences and similarities in teaching English as a foreign language in Turkey and Brazil, collaborative material creation tasks were also conducted to promote the development of intercultural communicative competence (CCI). These activities included three main tasks: (1) Icebreaker, aimed at participants getting to know each other through the production of a short video, enabling information exchange in English; (2) CCI exploration activity, to discuss similarities and differences in teaching contexts of English as a foreign language in Brazil and Turkey, using the English language; and (3) development of cultural activity through the use of digital tools such as Moodle, email, Zoom, Quiz maker, among others, stimulating collaborative production among participants.

In the proposed activities, participants cooperated and constructed knowledge based on their own previous experiences in an autonomous learning environment. One of the main advantages of using this platform was the flexibility of multimodality, meaning the utilization of various forms of interaction through video, text, and image, and the consequent opportunities for customization and contextualized content appropriation. In a language teacher training context, this multimodality was significant in allowing cultural and contextual interaction among participants.

Synchronous activities were conducted on Zoom, Google Meet, and Teams platforms. Pre-service teachers were able to: (a) become more aware of the complex relationship between culture and language; (b) develop an understanding of how different cultural contexts can lead people to see and experience the same events differently; (c) engage in critical discussions about their own norms, values, and beliefs, comparing them with those of their peers.

The goal of using different digital tools (AnswerGarden, Bamboozle, Canva, etc.) for lesson planning was to develop digital literacy and enable technological mediation through familiarity with various tools. In this process, pre-service teachers also developed CCI (Intercultural Communicative Competence), understood as the ability to communicate with participants from other cultures, both through asynchronous tools (email, Google Drive, and WhatsApp), and through synchronous tools such as Zoom, Google Meet, and Teams.

Analysis

In this section, a joint analysis of the Virtual Exchanges (VEs) conducted in 2019 with a Chilean university (pre-pandemic), in 2021-1 (during the pandemic) with a Spanish university, and in 2022-1 (post-pandemic) with a Turkish university will be carried out. Overall, the greatest challenge for integrating VEs into teacher education before the pandemic relates to the lack of infrastructure and support for their implementation or for the incorporation of online or hybrid components into curricula. This resulted in the internship supervisor's frustration for being unable to hold more online synchronous meetings between the Brazilian and Chilean groups.

Regarding the VE projects carried out during the pandemic, a unique opportunity was observed for the training teacher and pre-service teachers to participate in virtual exchanges, having contact with Foreign Language teachers and students from other countries, in authentic cultural and linguistic exchanges. This was an important and unique moment of training and reflection on the role of technologies in bridging distances and promoting authentic and intercultural exchanges, especially in a period when local and physical contact was limited by pandemic restrictions. It was also a unique opportunity, as it could not be repeated in the same way after the pandemic, to integrate technologies into language teaching and learning methodologies.

During the return to face-to-face teaching post-pandemic, problems related to the lack of institutional support and structure for this integration reappeared. It seems that upon returning

to the "old normal," we did not learn anything from the pandemic, wasting the lessons learned. This was evidenced by the difficulties faced in maintaining the VE with Turkey as part of the teacher training methodology during the internship. Faced with the challenges of returning to face-to-face teaching and integrating technologies into methodologies after the pandemic, a more detailed analysis of the field diaries from this period/VE will be carried out.

Next, some data from the post-pandemic period will be presented to illustrate the analysis, using the acronyms P1 (training teacher from the Brazilian institution), P2 (training teacher from the Spanish institution), P3 (training teacher from the Turkish institution), M1 (monitor responsible for writing the diaries and reports), A1 and A2 (two Brazilian participant-students of the VEs), BR-TR (VE conducted between the Brazilian and Turkish universities), and BR-ES (VE conducted between the Brazilian and Spanish universities). Additionally, although the terms "diary" and "report" are used synonymously here, both are being employed to differentiate which VE M1 is referring to. When we mention "diary," we are referring to M1's field diaries about the VE conducted with the Spanish university, and when we say "report," we are referring to M1's field reports about the VE conducted with the Turkish university. With this clarified, we will proceed with the analysis.

It was observed that, despite the need to update the Foreign Language (FL) teaching-learning process and language teacher education, the Virtual Exchanges (VEs) conducted during the Supervised Internship courses did not receive adequate institutional support regarding planning, the provision of digital resources, and full technological integration during the English teacher education program at the Brazilian institution, especially in the case of the VE with the Turkish institution (BR-TR), when the Brazilian educational institution did not allow the VE to be directly incorporated into the discipline due to the end of EARTE in 2022. Consequently, the BR-TR VE was conducted outside the workload of the Supervised Internship course, becoming a complementary activity with the right to a valid certificate so that the participating students from the Brazilian institution could accumulate complementary hours required by the English Language program.

This resulted in only half a dozen Brazilian students participating when there were 20 vacancies available for each institution (Brazilian and Turkish), while in Turkey, due to mandatory participation due to the integration of the VE into the corresponding Internship discipline, participation was unanimous. In the VE with the Spanish university (BR-ES), the participation of Brazilians was unanimous for the same reason. However, the lack of institutional support was less noticeable due to the implementation of EARTE at that time and

the fact that digital resources depended entirely on students and teachers, unlike the previous example of the VE with the Chilean university.

Despite the lack of institutional support, the training teacher developed and taught both the Internship courses and the VEs, demonstrating awareness of the importance of integrating digital technologies and VEs into language teacher education. This enabled, in one way or another, the critical incorporation of digital technologies that made the VEs feasible, thus aligning with contemporary teacher education. Before conducting the BR-TR VE, the training teacher from the Brazilian university (P1) held a meeting with the Internship students and M1, who had already participated in the BR-ES VE in the previous semester within the Supervised Internship discipline.

The meeting took place eight days before the start of the BR-TR VE to explain and guide these students in the registration and use of the platform, as there was no other way for the students to become acquainted with it, since there is no specific discipline in the curriculum that addresses digital tools and resources for L2 teaching and learning. It is relevant to highlight that the meeting was not mandatory according to the VE schedule, being held at the initiative and discretion of P1. Only five students attended the conference, and not all five subsequently participated in the BR-TR VE, even after registering for the VE during the meeting. P1 had already sent emails to all internship students explaining how this VE would be conducted, highlighting differences in various aspects compared to the previous VE (BR-ES).

In the meeting prior to the BR-TR VE, P1 emphasized at least three times that it was vital for them to access the platform together with their "life" so that they could ask questions immediately. She demonstrated the platform and how to register for the VE through screen sharing. The (free) platform used for this VE was Moodle, apparently better than Teams, which was used in the previous VE (BR-ES). P1 allowed the students to explore the platform while she was there to address any questions that arose. "P1 emphasizes that it is quick [to register]: just log in, register, and enroll in course VE2.1" (M1's Report 1), unlike what happened with Teams in the previous VE. Everyone was able to access and enroll.

Although P1 was able to guide the students in their registrations and explorations of the Moodle platform in this meeting, in the next meeting (minutes after the first one), she, her monitors, and the other training teacher from the university in Turkey (P3) vented their frustrations. They stated that they had various doubts about using the platform as editors; some doubts were specific: how to add tasks in the task section and not in assignments, what each section in Moodle meant, and whether it was possible to shape the design of each task, among

others. The platform was almost ready, but someone else in the VE group had done the editing work. It turns out that the platform was simpler for readers and users/students than editors and users/teachers/monitors, as they would also have to edit it.

After a meeting of about half an hour, it was agreed that everyone would try to explore the tasks and the platform, seek tutorials, and create an account as students to access the interface viewed by student participants. In the end, someone with greater knowledge took on the responsibility of updating and editing the platform. These difficulties highlight the lack of specific training on the implementation of technologies in the teaching-learning process for the training teachers and their monitors, who had to learn the basics in practice at that moment. Regarding this, M1, in her Diary 06 about the BR-ES VE, mentions that, despite having already completed her undergraduate degree, she still felt in the process of formation along with the internship students and the participants of the BR-ES VE due to these difficulties, adding: "I have sacrificed the contents of the master's degree courses to learn the technologies." M1 expresses dissatisfaction and frustration in her diary due to a lack of mastery of digital technologies.

Despite these initial challenges in the BR-TR VE, the platform proved to be much more effective than Teams, although it was necessary to use a combination of platforms to replace or perform some functions that Teams would perform if used, since Moodle does not allow video calls. It is believed that the best of each platform was used: Google Drive to store texts, videos, and audio; Moodle to post and respond to activities, share video links and slide presentations, and comment on them; WhatsApp for asynchronous meetings; and Zoom for synchronous video calls and for recording them. The diversity of platforms did not reduce student participation; on the contrary, it enabled them to participate more actively in this VE, unlike the BR-ES VE.

This occurred because, on the first day of the BR-ES VE, some students from the Brazilian institution faced difficulties in registering on the Teams platform. It was necessary for the training teacher from the Spanish university (P2) to grant Brazilians access to participate, as the Spanish institution had signed a package with Teams and the Brazilian institution had not. Thus, P2 granted Brazilians access to the platform, which later proved limited for some. As the registration release depended on P2, Brazilians sent a list of emails that should be added to the VE within the Teams platform, but for some unknown reason, the registration of some students was not released.

On the date of the first meeting, the time allotted for discussing texts and materials

among the Brazilians for the first BR-ES VE meeting, held on Google Meet an hour before the Teams video call, was completely consumed by attempts to resolve the registration and access issue. In the end, not all Brazilian students were able to participate in this first VE meeting. Although this problem recurred in a less critical manner in subsequent meetings, still, a significant portion of pre-VE discussion time among Brazilians was occupied by these technological issues and attempts to resolve them.

Teams also offered the forum feature, where students (pre-service teachers from both institutions) could interact about the texts and VE meetings. However, not all students could access this forum, including M1. Another recurring access problem occurred during video call interactions, where the chat was not available to all Brazilian students due to some error in the platform. Immediately after the first meeting ended, Brazilian student participants flooded the WhatsApp group they had with the Brazilian monitors with messages, questioning whether it would be possible to switch to another platform, such as Google Meet. However, this change was not feasible as the Spanish institution did not use Google Meet and did not consider the platform reliable. Thus, reluctantly, they continued to use Teams.

Despite these setbacks, the VE with Spain was not entirely hindered as Teams allowed classes to be conducted, albeit with some limitations. Its main functions, such as video calls and screen sharing to display the slides that guided the teachers in their classes, worked, although audio and video experienced glitches on older laptops or those with less RAM, as well as on slower internet connections.

The most anticipated moments were the breakout rooms, where student participants and monitor participants could delve into discussions on cultural issues (e.g., multiliteracies, CLIL implementation in different countries, the importance of English teaching in Spain and Brazil, experiences of physical and virtual exchanges, the use of ICTs in L2 teaching and learning in both countries, among others) and English language teaching in regular schools, exchanging knowledge and experiences among pre-service English teachers. It took 3 to 7 minutes for participants to be sent to their breakout rooms, and M1 believed this was due to P2's lack of mastery over this specific function of the platform, and in addition to the delay, some participants were sent to the wrong groups. However, apparently, all participants ended up adapting to this situation and were able to enjoy this moment within the small rooms (breakout rooms).

M1 reports that this moment of discussion among small groups made participants more comfortable interacting and exchanging experiences and knowledge. She expresses the effect

that these discussions and more private interactions facilitated by the breakout rooms had on most participants in class 03 of the IV: "Today the girls [the Spanish female participants who were part of her group] and A1 are more outgoing, speaking more and with more confidence, except A2. I am happy, I don't feel like a mediator" (M1's Diary 07).

According to M1, participants in the BR-ES IV wished for more time within the breakout rooms, as 10 minutes were not enough, and even on the day they were able to stay for 17 minutes, she felt that discussions and interactions could have lasted longer. After the breakout rooms, participants had 1 minute (timed) to share with the larger group what was discussed. M1 also thinks they could have had more time during this sharing moment.

Only one of the members of M1's group in the BR-ES IV (participant A2) was unable to participate frequently, as, according to M1, the student participant had a notebook that did not support the Teams platform well. In addition to Teams, WhatsApp was also widely used for exchanges among Brazilian groups and the other groups of the BR-ES IV, being effective. M1 reports that in one of the BR-ES IV meetings, her microphone was not working in Teams in the breakout room; the solution was to use WhatsApp to video call the only member of the group who showed up that day. In addition to these digital resources, Padlet was widely used and effective for summarizing what was discussed in the breakout rooms, and Quiz-maker was used to create a game/quiz about one of the texts worked on in one of the classes.

In summary, during the IVs, throughout the teaching-learning processes and the exchange of knowledge and experiences, various tools (hardware and software) were used to mediate social practices, as mentioned earlier, especially communication and teaching-learning. These tools were essential for the dynamics of the classes, both to enable their realization (for example: the use of Meet, Zoom, and Teams), proving to be central elements of teacher education, since without them, the synchronous classes/meetings that, in the case of the BR-ES IV in the Internship I discipline, where the conferences/classes were mandatory, would not be possible; they were also central elements in making synchronous classes/meetings more dynamic and motivating/interesting (for example: Socrative, Kahoot, Quizmaker, etc.).

In her Report 03, M1 describes the first activity of the BR-TR IV: elaborating and recording a short video and interacting with other participants/colleagues through comments on the Moodle platform. The monitor was surprised not only by the engagement of the student participants in the activity but also by their performance in creating the videos: "All the videos impressed me in one way or another: the content, the intelligibility of the language, the enthusiasm, the editing, soundtrack, photos, among others" (M1's Report 03).

In the last report of the BR-TR IV, the 05, a "reflective activity," M1 responded to the question, "How do you define your IV process? Was it fun, interesting, boring, or scary?" According to M1, her experience in the BR-TR IV was enriching and engaging in the sense that it was possible to share experiences and knowledge with the students from the Turkish institution and learn a little about their culture, debunking stereotypes. In addition, she considers that she was able to develop her autonomy and ICC. Throughout the BR-TR and BR-ES IVs, the English language and technologies mediated various learning processes, especially those related to cultural issues, teacher education in ELT, and ELT in the three countries (Brazil, Spain, and Turkey).

Furthermore, M1 reports that, in both IVs, the participants in her groups and herself were able to share experiences and knowledge about English teaching in their countries (Brazil, Spain, and Turkey) through videos, audio, written comments, and video calls. She observed many similarities among the countries: short class hours, the belief that it is not possible to learn English in public schools, excessive focus on grammar at the expense of communicative skills, few poorly utilized technological resources, and English classes being undervalued compared to other subjects, among other aspects.

Brazil seemed to lag behind other countries in aspects such as class time (50 minutes), lack of basic school materials (textbooks), and even technologies. According to the Spanish participants, tablets are provided to students in Spain, but they are not well explored or utilized. In both cases, student disinterest was emphasized as a result. The Turkish participants and M1 briefly addressed the topic of learning English through video game playing, something that has become common today, especially among children.

Despite the obstacles faced in English language education in regular schools in their respective countries, M1 observed, while watching the Turkish participants' videos during the BR-TR IV activity, a palpable enthusiasm regarding their future as English teachers. Furthermore, the presence of ideals of critical teaching was noted, including references to Paulo Freire. Although they were not the main focus of the IVs, these elements enrich teacher education and are aligned with the guidelines recommended by the Brazilian institution throughout the formative process, such as the importance of good teaching-learning conditions, contextualization of learning in relation to practical relevance, and promotion of student autonomy through the development of communicative skills in the second language (L2), allowing them to play an active role in the classroom.

Furthermore, both in the BR-TR and BR-ES IVs, participants emphasized the desire and importance of focusing on the productive/communicative skills of L2 aimed at communication and active participation of students in the classroom, integrating the use of digital technologies. Other topics related to the security or insecurity in applying teaching methodologies and approaches were discussed, especially in the BR-ES IV, such as CLIL and TBLT; student participants showed interest but little confidence due to the limitations of public schools. Also, in the BR-ES IV, the role of English as a lingua franca and international language without focusing on native standards, but according to the contemporary, globalized, and technological world, was more evident and emphasized than in the BR-TR IV.

In addition to addressing methodologies and content, experiences in developing activities for teaching English in regular schools were also shared and discussed. During synchronous meetings, possible activities and resources that could be used in English classes were discussed, focusing on the development of intercultural communicative competencies (ICC) and the productive skills of L2. The use of videos, audio, and mobile devices was suggested, including addressing cultural aspects and the diversity of English speakers around the world. Participants concluded that the incorporation of technologies and intercultural communicative competencies in regular schools would be more challenging than in higher education and English teacher training.

M1 also reports, during her participation in the BR-TR IV, that in Brazil, the pandemic brought more benefits in this regard (regarding technologies and ICC) to Higher Education than to Basic Education, where children did not reach the expected level of literacy within the planned time. However, she believes that it is possible to progress with small steps, but unfortunately, this depends much more on the efforts of teachers than on institutions. Turkish participants report that during the pandemic in Turkey, television was used to broadcast content and activities on Zoom and in universities, the institutions' websites themselves. One of the Turkish participants mentioned that she is currently learning to use more technology in teaching, beyond traditional methods, than she learned in previous years. In the BR-ES IV, Spanish participants mention that they have already used Socrative, Quiz-maker, and Kahoot, among other digital tools, to carry out activities during their undergraduate studies and consider these methods effective and interesting to be applied in regular teaching.

Furthermore, in her final report on the IV BR-TR, M1 responds to some questions regarding what the IV provided in terms of L2 teaching, online communication and collaboration, and face-to-face and virtual exchanges. She reports that the IVs provided her

with self-confidence and autonomy and allowed her to venture into technologies to communicate within the IV.

M1 also reports learning to be more patient and explore more resources to make FL teaching more dynamic. She also believes that the IV has the potential to prepare its participant students for physical and virtual mobility projects, as it puts them in contact with the cultures and formal knowledge of foreign institutions, making participants more comfortable with mobility.

Regarding the IV BR-ES, M1 states that the monitors and students provided various feedback that was considered by P1 in the realization of the next IV (the IV BR-TR), such as: the use of another platform (since Teams was too heavy and limited for those who do not have a paid subscription); greater freedom of participation and synchronous and asynchronous interaction; and closer contact with the group (individual presentations and sharing of experiences), something that was not done in the IV with Spain due to the limited time in breakout rooms.

Finally, M1 presented only two suggestions for improving future IVs, such as the one held with Turkey, unlike the suggestions and complaints raised regarding the IV BR-ES: "having a more 'concrete' agenda, which would better serve both countries [Brazil and Turkey], and more synchronous video meetings" (Report 05 by M1).

The experiences shared and reported within both IVs highlight the potential of Information and Communication Technologies (ICTs) and the internet as mediators in teaching-learning methodologies and Foreign Language (FL) teacher education. The technologies and methodologies observed during the IV projects contributed to the experiences that make up teacher education (Freeman, 2001), proving relevant for incorporation into the teacher education curriculum. The IVs promoted collaborative teaching and learning, connecting students and teachers from distant locations and allowing the use of authentic digital resources and materials during language exchanges and authentic practices.

In this sense, the pandemic provided, even if forced, the integration of technologies into teaching methodologies and teacher education.

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Final considerations

Overall, the analysis concludes that the digital tools used in the IVs, when incorporated into teacher training courses, supported the development of essential skills in language teacher education, such as critical thinking, intercultural communication, and digital literacy. Despite the described positive results, it is crucial to highlight that this incorporation must be supported by curricula, methodologies, and institutional infrastructure to occur effectively for all involved.

As mentioned earlier, aspects related to lack of institutional support may help explain the low participation of Brazilian students. Considering that the Supervised Internship has the highest workload of the course (200 hours), requiring students to be at the university or school for most of the time during the return to face-to-face teaching, this limited, to some extent, their ability to connect or engage in IV projects beyond the mandatory discipline in the semesters when IV projects were integrated into the curriculum as complementary (and not mandatory).

As observed in the IV project with Chile before the pandemic, the Brazilian university had only one videoconferencing room (intended for thesis defenses), which limited its use for classes and IV projects. The difficulty of integrating projects of this nature was structural, leaving the integration of IV projects within the discipline's workload as the only possibility, which was no longer allowed during the return to face-to-face teaching.

After the pandemic (even with the emergence of more options for rooms at the Brazilian university), the teachers of this institution (in general) were firmly against hybrid or online teaching, opting for a return to "traditional" face-to-face teaching and the "old normal," as if nothing had changed in the two years of the pandemic and the lessons learned during that period. Any suggestion to incorporate hybrid (or online) activities, classes, or content into the disciplines was viewed with suspicion and rejection by the local teaching community, due to fear of the commodification of education. Thus, we conclude by suggesting the critical incorporation of technologies into teaching-learning methodologies and teacher training, understanding that IV projects represent a relevant alternative for this purpose.

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