

Towards an Ecological Approach in Telecollaboration

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Abstract:

In recent years, telecollaboration has been allowing the practice of foreign languages as well as the contact between people from different countries and cultures (O'DOWD, 2003, 2013, 2016, 2018; TELLES, 2015a, 2015b). According to O'Dowd (2013, 2018), telecollaboration refers to the use of online technologies in the context of language education between students who are geographically dispersed. This study aimed at discussing, through an ecological approach, which focuses on the relationship of people with the environment, different aspects that influenced the participants' interaction in the telecollaborative sessions. For the interpretative analysis, data from telecollaborative sessions, experience reports, interviews and reflective diaries were used. The data analysis revealed five aspects that influenced the participants' interaction in the telecollaborative sessions, including "restricted language abilities", "concern because the telecollaborative session was being video-recorded" and "technical problems". In order to deal with online contexts (e.g. telecollaboration and videoconferencing), we suggest that different approaches are needed, and the ecological approach, used in this study, seems to be a suitable alternative.

Keywords:

Ecological approach; telecollaboration; online foreign language teaching and learning.

Towards an Ecological Approach in Telecollaboration

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INTRODUCTION

Since the late 1990s, the use of digital resources in the foreign language teaching, facilitated by the use of Information and Communication Technologies (henceforward ICTs), has been considered significant for the contact between people from different cultures and languages. In this regard, Warschauer (1997) already pointed out that online resources exerted a huge impact not only on Education in general, but also on computer-assisted foreign language activities, whilst for O'Dowd (2013, p. 123) "one of the major contributions of the internet to foreign language (FL) education has been its potential to bring language learners into virtual contact with members of other cultures and speakers of other languages".

It is in this context, driven by the advent of different digital technologies, that telecollaboration¹ has emerged. For Thorne (2006, p. 3), telecollaboration practices allow for "actual interaction with expert speakers of the language". More recently, telecollaboration has been defined as "the application of online communication tools to bring together classes of language learners in geographically distant locations to develop their foreign language skills and intercultural competence through collaborative tasks and project work" (O'DOWD, 2013, p. 123). O'Dowd (2018) adds that virtual exchanges through telecollaboration can be beneficial for language learners, as it promotes the practice of foreign languages between students from different cultures.

It should be noted that our interest in the intersection between the ecological approach (henceforward EA) (HAUGEN, 2001; VAN LIER, 2004; KRAMSCH; STEFFENSEN, 2008) and telecollaboration (O'DOWD, 2013, 2016, 2018; TELLES, 2015a, 2015b; SCHAEFER, 2019, 2020, 2021) derives from Schaefer's PhD (2019) research, one of the authors of this study. By reviewing the literature, it was found that there were not studies that had hitherto adopted the EA related to this context. Kern (2014, p. 344) emphasizes that "language ability, linguistic style, academic context, and institutional culture are all factors that can affect learners' negotiation of meaning and cultural understanding". Kramsch and Steffensen (2008), on their part, highlight the importance of the EA as follows:

Ecological theories of learning must prompt us to rethink the relationship of individuals and various learning environments beyond the classroom, e.g., study abroad and distance learning. It is also prompting us to seriously conceptualize the relationship of individuals and their objects or artifacts, in particular computer technology. (KRAMSCH; STEFFENSEN, 2008, p. 24).

Having said that, this qualitative study² aimed at discussing, through the EA, different aspects that influenced the participants' interaction in the telecollaborative sessions. To achieve this objective,

¹ Most recently, the term Online Intercultural Exchange (OIE) has also been used to refer to "telecollaboration" (O'DOWD; LEWIS, 2016).

² For Patton (1985, p. 1), a qualitative research presupposes "an effort to understand situations in their uniqueness as part of a particular context and the interactions there".

we outlined the following research question: what aspects influenced the participants' interaction in the telecollaborative sessions?

This study can contribute to the context of telecollaboration in two ways. About the first, the need to look at sociocultural aspects in telecollaborative interactions was pointed out by Telles (2011). Concerning the second way, we adopted the EA, referred to previously. Hence, this study seeks to bridge a gap by focusing on telecollaborative sessions through the EA which, in a more holistic view (KRAMSCH; STEFFENSEN, 2008), can help to draw attention to different instances beyond the online sessions.

This text is divided into five parts. The first focused on the purpose of this research and, in addition, presented a brief contextualization of the object of study. In the second part, we deal with the relevant literature to ground this study, while in the third we address the method used. Then, we present, in the fourth part, the data analysis and discussion. The final part presents considerations and offers suggestions for further research.

THE ECOLOGICAL APPROACH AND TELECOLLABORATION: SOME THEORETICAL CONCEPTIONS

As explained by Van Lier (2004), the term “ecology” was coined in the 19th century by Ernst Haeckel, a German biologist. Haugen (2001, p. 57) makes it clear that the EA is focused on the “study of interactions between any given language and its environment”. Van Lier (2004), in turn, underlines that this approach is concerned with the relationship between people and the environment, which enables a situated and contextualized way to analyze an investigative phenomenon.

Van Lier (2004) suggests that the EA can be approached in two ways: shallow and deep. On the one hand, the shallow way concentrates on solving problems, but without seeking to understand more deeply what could have caused these problems. On the other hand, the deep way, which converges with holism (KRAMSCH; STEFFENSEN, 2008), one of the main characteristics of the EA as will be seen in the next paragraph, has the purpose of understanding critically and more comprehensively the underlying causes of such problems.

According to Kramsch and Steffensen (2008), one of the central characteristics of the EA is holism, in the sense that language cannot be regarded as a mere system of rules, closed, abstract, finished and dissociated from the interference of social aspects. Looked at from this angle, the authors claim that a holistic view addresses the specificities concerning language learners' interaction. Similarly, Kramsch and Steffensen (2008) emphasize that:

We should look for interconnections between scales, e.g., between the microlevel of the individual organism and the macrolevel of society, between past and potential future performance, between organic processes of learning and inorganic materials such as computers, tapes, etc., between local behaviors and global events, between lower level phenomena such as textbooks and classrooms and higher level phenomena such as geopolitics and globalization. (KRAMSCH; STEFFENSEN, 2008, p. 22).

The aforementioned quote can be related to telecollaboration, the specific context of language teaching and learning in this work, in the sense that language learners can discuss, in the online sessions, issues that are linked to the place where they live – microlevel – as well as to the globalized world – macrolevel –. In addition, they can talk about their respective family members, pets, personal objects, cinema, music, and so forth.

As Kramsch and Steffensen (2008, p. 18) put it, a holistic view presupposes that “everything is part of an undividable whole”. From the perspective of indivisibility, the authors argue that linguistic phenomena in social interactions needs to be taken as interactional, interconnected and interdependent. Interaction refers to the idea that there is not a mono-direction relationship amongst individuals, but rather mutuality, meaning that all parties are affected in a variety of ways. Interconnection, in turn, stands for the connection between each part of the whole with any other parts and the whole. Finally, interdependence “implies that a linguistic phenomenon’s mode of existence changes if other phenomena change or cease to exist” (p. 18).

A holistic view, according to Kramsch and Steffensen (2008), has a dialogical perspective as its central epistemological axis. The authors mention four fundamental aspects as regards dialogue. The first is informed by the idea that it is through dialogical relationships that situational, personal and cultural characteristics merge. The other three aspects are related to the following:

(ii) it is in dialogue that interconnectedness, interdependence, and interaction of language unfold; (iii) dialogue provides the breeding ground for the creation and maintenance of sociocultural and linguistic diversity; (iv) dialogue offers a possibility for realizing our potential for changing ourselves and our surroundings. (KRAMSCH; STEFFENSEN, 2008, p. 19).

A dialogic approach, which is at the heart of the EA (KRAMSCH; STEFFENSEN, 2008), can be fostered between language learners from various cultures in telecollaborative contexts. Indeed, telecollaboration is regarded by different researchers as an opportunity for dialogue. For instance, Helm (2016, p. 153) highlights that through dialogue, by working collaboratively, “participants explore identities and difference, personal experience and emotions, which contribute to awareness of self and others”, whilst for O’Dowd (2003, p. 133) it enables “learners to express their ideas and then to clarify and redefine them through feedback and through the other perspectives to which they are exposed”. Similar to O’Dowd (2003), Tella and Mononen-Aaltonen (1998) feel that moments of dialogue in telecollaborative sessions allow for “interaction between self and other and the incorporation of the latter’s conceptual horizon to one’s own perspective” (p. 14). Finally, Veloso and Almeida (2009) argue that dialogue prevents language learners from being consumers of teaching syllabus, which leads them to take a major control over their learning process.

We would like to present, drawing from the work by O’Dowd and Lewis (2016), three examples of telecollaborative projects³ that aim at promoting dialogue. The first project is *The Cultura Exchange Programme*. It is a hybrid learning environment created by Gilberte Furstenberg at MIT (Massachusetts Institute of Technology), in the United States. Since the beginning, the main objective of *Cultura* is to teach language and culture as inseparable and to bring students “to be deeply involved first-hand in the foreign culture and on an almost daily basis” (FURSTENBERG, 2016, p. 248). One of the ways to achieve this goal is by promoting discussion on different cultural topics in forums as well as reflection upon different points of views addressed during the telecollaborative sessions. Another way to teach language and culture as interactively related, as Furstenberg (2016) explains, is by conducting an activity named *parallel texts*, where the objective is to encourage students to compare “similar types of documents or texts drawn from the two different cultures - then discuss, and exchange viewpoints with each other” (FURSTENBERG, 2016, p. 252).

The second one, *The Cultnet Intercultural Citizenship Project*, with the participation of more than 200 researchers, has existed for nearly two decades. Developed in partnership with members of an informal

³ We decided to describe these projects given their representativeness in this area.

network of researchers who are interested in the teaching of foreign language and in interculturality, this project starts from the principle that teaching and learning should foster critical thinking and critical cultural awareness. Moreover, the objective of *The Culnet*, according to Byram (2016), is to promote, through subprojects, education for citizenship in the area of foreign language teaching and learning between students and teachers from European secondary schools and universities. He also notes that, based on the theory of citizenship and criticality, subprojects, in addition to having students get to know each other or learn something about the other through the intercultural dialogue, should help them develop intercultural citizenship.

The third project, *Teletandem Brasil: foreign languages for all* (henceforward TTB⁴) (TELLES; VASSALLO, 2006; VASSALLO; TELLES, 2006; VASSALLO, 2009; TELLES, 2011, 2015a, 2015b; LEONE; TELLES, 2016), was created in 2006 and is run at a state university in São Paulo's countryside. The online sessions, which can take place through tools such as *Skype*⁵ or *Zoom*⁶, enable college students from Brazil to interact with college students from other countries. TTB was conceived and developed on the basis of the idea that knowledge is socially co-constructed through language (VYGOTSKY, 1978; 1986; TELLES, 2015a). Teletandem, a specific "mode of telecollaboration" (TELLES, 2015a, p. 604), has three guiding principles: autonomy, reciprocity and separate use of both languages (BRAMMERTS, 1996, 2003; TELLES; VASSALLO, 2006; VASSALLO; TELLES, 2006; TELLES, 2015a, 2015b; VELOSO; ALMEIDA, 2009). Autonomy is related to the responsibility that participants have for both their own learning and the learning of her/his partner. Reciprocity, the second principle, concerns the mutual support and interdependence between two learners who are engaged in equivalent commitment, and both of them aim at achieving intended results in this partnership. Finally, separate use of both languages refers to the same amount of time used to practice the two languages.

In what follows, we consider it relevant to present six studies that, despite not having been informed by the EA, fostered the interaction and dialogue between people from different countries through telecollaboration, such as the three projects previously described. The first study, which is entitled, *Aplicaciones potenciales del contexto teletandem para el aprendizaje de lenguas extranjeras*⁷, authored by Benedetti (2010), presented the potential of teletandem for intercultural learning. The author highlights four potential applications: "negotiation of meanings in real-time", "focus on language and corrective feedback", "co-construction of the learning process" and "development of intercultural communicative competence"⁸. The second study, *A articulação língua-cultura na coconstrução da competência intercultural em uma parceria de Teletandem (português/espanhol)*⁹ (RODRIGUES, 2013), had the purpose of investigating the potential of telecollaborative exchanges to foster the co-construction of intercultural communicative competence between a Brazilian and a Uruguayan. In the third study, *Teletandem and performativity*, the objective of Telles's (2015b) research was to understand the way in which the constitution of national identities occurred. Even though Telles did not analyze data from mediation sessions¹⁰, he stresses that

⁴ See <http://www.teletandembrasil.org/> for further information on TTB.

⁵ Skype is a software that provides voice and video communications via the Internet.

⁶ Zoom combines online meeting, video conferencing and mobile collaboration. It also provides cloud-based video communication.

⁷ In English: Potential applications of the teletandem context for foreign language learning.

⁸ For Byram (1997), intercultural competence refers to the ability to interact adequately and flexibly with people from other cultures.

⁹ In English: The articulation language-culture in the co-construction of intercultural competence in a Teletandem partnership (Portuguese/Spanish).

¹⁰ For Leone and Telles (2016, p. 244), mediation sessions are "moments that follow interactions in teletandem". They add that "during these sessions, students have the opportunity to dialogue and exchange experiences with a mediator - a teacher of foreign languages. These discussions focus on (a) aspects of language, (b) culture and (c) partners' relationship" (p. 244).

these moments can promote critical thinking as well as “critical appreciation of identity and difference” (p. 25) if appropriately and critically explored by teacher-mediators.

The fourth study, *Potenciais sequências de aprendizagem intercultural no teletandem: a importância da mediação*¹¹, by Lopes and Freschi (2016), sought to discuss the relevance of the identification of potential sequences for intercultural learning (BORGHETTI, BEAVEN; PUGLIESE, 2015)¹². Through the analysis, the authors identified potential sequences, e.g. prejudice and essentialized worldviews, for intercultural learning. Souza’s (2016) study, *Teletandem e mal-entendidos na comunicação intercultural online em língua estrangeira*¹³, investigated the process of meaning negotiation and the emergence of misunderstandings during the telecollaborative sessions between learners of Portuguese and learners of English. The author explains, on the basis of what one of the participants had underlined, that misunderstandings arise “in the linguistic level of understanding of the intended meanings” (p. 123, our translation¹⁴). Finally, Schaefer’s study (2019) adopted the EA as a theoretical background to achieve the objective of his research, namely to understand how the co-construction of interculturality took place. The author’s investigation showed that through the use of the EA it was possible to understand the reality of the data beyond the telecollaborative sessions, e.g. in the interviews and in the participants’ experience reports.

As was said in the Introduction, through the review of studies it was found that, with the exception of Schaefer’s research (2019), studies that took the EA related to telecollaboration were not identified, which means that there is a gap to be bridged. Furthermore, such a review, in the light of the EA and the dialogical view (KRAMSCH; STEFFENSEN, 2008) referred to previously, suggests that telecollaborative exchanges go far beyond the idea that language learners are empty vessels to be filled by explanations provided, for example, by the teacher. This view is echoed by Van Lier (2014), as the EA allows for “the authorship of one’s actions, having the voice that speaks one’s words, and being emotionally connected to one’s actions and speech” (p. 8).

After the presentation of some theoretical basis on the EA and telecollaboration, in what follows we will explain the method used in this study.

METHOD

The data used in this study¹⁵ were collected in a specific telecollaborative project, TTB, between September and December 2016. During that period, in which one of the authors was a teacher-mediator, there was a telecollaborative partnership between a group of eight students from a state university in Brazil¹⁶, where TTB is developed, and a group of eight students from a university in the United States¹⁷.

As will be explained below, this study can be deemed as a *case study* (DUFF, 2014) because it looked at a contemporary phenomenon in its real context. For Duff (2014, p. 233), case studies “are normally studied in depth in order to provide an understanding of individuals’ experiences, issues, insights, developmental pathways, or performance within a particular linguistic, social, or educational context”.

¹¹ In English: Potential sequences of intercultural learning in teletandem: the importance of mediation.

¹² For Borghetti, Beaven and Pugliese (2015, p. 44), such potential sequences involve the following: “(1) exemplifications and equivalences between phenomena; (2) communicating understanding to others and; (3); adapting to others’ contributions”.

¹³ In English: Teletandem and misunderstandings in online intercultural communication in foreign language.

¹⁴ Original quote: “no nível linguístico de compreensão dos significados pretendidos”.

¹⁵ The data are from a research project duly approved by Research Ethics Committee (Comitê de Ética em Pesquisa com Seres Humanos - CEPESH-UFSC) logged under Approval Number 1.762.956. CAAE: 56955216.8.0000.0121.

¹⁶ In this study, we included data only from one of the eight students of the Brazilian university: Carlos.

¹⁷ In this study, we included data only from one of the eight students of the American university: Joan.

Therefore, precisely because it is a case study, this study included two participants in particular regarding the telecollaborative sessions: Carlos and Joan^{18 19}. Carlos, a Brazilian citizen, was 21 years old at the time of the data collection and was a learner of English. Joan, a U.S. citizen, was 19 years old and was a learner of Portuguese.

The excerpts analyzed below were taken from (a) 2 out of 10 telecollaborative sessions; (b) 3 out of 9 experience reports and; (c) 3 out of 12 interviews. The telecollaborative sessions between Carlos and Joan, which occurred in the TTB laboratory through *Zoom*, were video-recorded. Through experience reports via *Google Forms*²⁰, Carlos had the opportunity to collect his thoughts and submit personal impressions regarding his weekly partnership with Joan. The former also participated in interviews, through which the researcher could better understand what he had addressed in his experience reports. The interviews were audio-recorded. Lastly, through reflective diaries the researcher had the opportunity to note down his reflections and impressions of any possible aspects related to the data collection process.

For Dörnyei (2007, p. 38), in qualitative research the findings are “ultimately the product of the researcher’s subjective interpretation of the data”. In fact, the data collected underwent a long process of interpretation and reflection. Therefore, in order to find and discuss aspects that influenced the participants during the telecollaborative sessions, we triangulated our interpretations regarding the data from these online sessions with the data from the experience reports and the interviews. As stated by Maxwell (1996), triangulation decreases the risk that the outcomes of a study reproduce biases or limitations of a single procedure. This way, in line with the EA, we were able to look beyond the telecollaborative sessions, that is to say, we could have a more holistic look as concerns the data.

In order to facilitate and optimize the transcription process, we used the software *Transana*²¹. We translated the excerpts from Portuguese to English, upon which we take full responsibility. The information between two parentheses, that is, (()), as transcription conventions²², are related to the researchers’ comments.

DATA ANALYSIS AND DISCUSSION

As stated earlier, this study aimed at discussing, through the EA (HAUGEN, 2001; VAN LIER, 2004; KRAMSCH; STEFFENSEN, 2008), different aspects that influenced the participants’ interaction in the telecollaborative sessions. Bearing in mind that this approach focuses on the relationship of people with the environment (VAN LIER, 2004), we will discuss below environmental aspects that had an impact on the participants’ interaction.

The data analysis revealed five aspects that influenced the participants’ interaction in the telecollaborative sessions, namely: (1) restricted language abilities; (2) concern because the telecollaborative session was being video-recorded; (3) a “different” learning environment; (4) technical problems and; (5) worry about the presence of a third person during the telecollaborative session. Next, the five aspects mentioned will be presented and discussed.

¹⁸ Fictitious names in order to safeguard the participants’ identity.

¹⁹ For ethical issues, a consent form (Free and Informed Consent Term) was signed by all the participants in this study.

²⁰ On Google Forms, it is possible to create virtual forms, e.g. open-ended, multiple choice and evaluation questions.

²¹ See <http://www.transana.org/> for further information on this software.

²² We used the transcription criteria proposed by Marcuschi (1997). Due to specificities of our data, we decided, on the basis of the criteria proposed by the author, to create our own transcription criteria.

Restricted language abilities

At the beginning of the fourth telecollaborative session, Carlos asked Joan whether she would like to discuss any specific issue, and she suggested “Brazilian politics”. In spite of the fact that Carlos proved to be very much at ease to explore this topic, soon after he highlighted the following: “the problem for me is that when we swap language I will have a hard time speaking but I shall make it”.

On the other hand, during the interviews, it was clear that this participant developed his line of thinking with more details, perhaps because the dialogue between the researcher and him was in Portuguese, his mother tongue. For instance, Carlos stated in one interview that most of the subjects that he and Joan discussed during the telecollaborative sessions came to the fore when they spoke in Portuguese. The following excerpt, taken from the third interview, elucidates this participant’s opinion on his restricted abilities to communicate in English:

1. Researcher: Do you consider that this aspect ((Carlos’s reference to his restricted language abilities)) in particular reflects on the interaction with your partner?
2. Carlos: YES ((researcher’s name)) of course... because like when she is speaking in Portuguese... the subject is... without... without... without impediment did you get it??
3. Researcher: Uh-huh.
(...)
4. Carlos: But about me it is this waste of time did you get it? Because I don’t have a command of English as good as she does in Portuguese, you know? (*Excerpt 1, semi-structured interview, original in Portuguese, 08/11/2016*)

Excerpt 2 below, taken from Carlos’s third experience report, also illustrates Carlos’s opinion regarding his restricted abilities to speak in English:

I feel that while we were speaking in English the subject did not flow as well as when we were speaking Portuguese, because I would very much like to speak with her as well as she speaks in Portuguese with me, so it makes me feel this foolish on my part about my command of oral English. (*Excerpt 2, Carlos’s experience report, original in Portuguese, 26-10-2016*)

Based on Carlos’s narrative in Excerpts 1 and 2 and on general observations by the researchers, restricted language abilities did have an impact on the participants in the telecollaborative sessions. Naturally, concerning the times when Carlos and Joan talked in English, it became apparent how the former put forward his opinions and reacted to his partner’s positioning just a few times. Linking back to Kern (2014, p. 344), language ability influences language learners’ “negotiation of meaning”. Similarly, Helm (2016, p. 157) warns that such language restrictions “can create inequalities of participation”. Finally, Souza’s research (2016), referred to previously, revealed that lower levels of language proficiency played a part in the participants’ interaction in the telecollaborative session.

Concern because the telecollaborative session was being video-recorded

Experiences in international exchange programs and obtaining permanent visa to the United States and Brazil were some of the topics discussed in some of the telecollaborative sessions. The following excerpt, taken from the second telecollaborative session, in which the participants discussed

some legal requirements for foreigners to live in the United States, presents the moment when Joan let Carlos know that her ex-boyfriend was waiting to be deported from the United States:

1. Joan: Ah you ... I don't know if it's being video-recorded but... I dated a Brazilian who was sent away he was deported and he...
2. Carlos: SHOOT then what?
3. Joan: YES. ((laugh))
4. Carlos: SHOOT is that true?
5. Joan: Uh-huh and like it's a process a bit... it's complicated you know? like he he like can't yet he's waiting to be deported...
6. Carlos: But is he jailed? Geez I'm making such a big deal about it guys ((looking behind him to make sure no one was hearing the conversation in the lab)) did he go to jail?... MY GOODNESS
7. Joan: ((laugh)) my teacher will know everything about me now ((since that telecollaborative session was being video-recorded)) I don't even know if he watches the videos... (*Excerpt 3, telecollaborative session, original in Portuguese, Carlos and Joan, 05/10/2016*)

In turn (1), Joan made it clear that she was uncertain whether that telecollaborative session was being video-recorded, although she, at her teacher's request, was responsible for video-recording the online sessions. Joan's anecdote left Carlos astonished in turns (2) and (4), and in turn (6) he looked behind him so as to ensure that nobody was overhearing that conversation and observing him. In turn (7), Joan claimed that her teacher, in case he watched that video in the following days, would be informed about that subject, which reveals an instance of concern on her part, in spite of the fact that shortly after she demonstrated to be doubtful if he was actually going to watch it.

Shortly after in that telecollaborative session, Carlos stopped talking to Joan for a while and asked out loud his classmates who were in the TTB laboratory whether that online exchange was being video-recorded. Carlos having asked that as well as the dialogue itself between this participant and Joan (Excerpt 3) show that the fact that the participants knew that the telecollaborative session could be being video-recorded influenced their interaction. In other words, Carlos was anxious because in the physical space where he was, that is, in the TTB laboratory, someone could be overhearing his conversation with Joan. In the same way, the subject that was being discussed could produce a "strangeness" on the part of the people who were present in the TTB laboratory. In fact, Van Lier (2004) notes that the environment has physical, symbolic and social characteristics that can have a considerable effect on the language learners' interaction. Similarly, Burbules (2006, p. 117) emphasizes that communication, whether online or not, "is not neutral and shapes the form and content of what is said or written". The author goes on to say that any piece of interaction has particular features that "privilege certain voices, perspectives, and ways of communicating" (p. 117).

A different learning environment

In the telecollaborative session, due to technical restrictions, Carlos had to move to the room next to the TTB laboratory. The next excerpt, taken from the participant's seventh experience report, depicts his impressions about the fact that there were many people in that room, including teachers:

In today's interaction ((telecollaborative session)) it was not productive for me, I mean I didn't speak English with my interactant²³ ((Joan)) due to the environment that I was submitted to for the interaction of the day. [...] But she ((Joan)) was very excited about Portuguese and because of that I ended up not speaking English, I don't mean that it was her fault but rather mine, because when I saw that the time to swap the language had already run out I didn't mind asking for swapping, because I was shy due to the number of people submitted ((that is, "people present")) in the next room. (*Excerpt 4, Carlos's experience report, original in Portuguese, 05/12/2016*)

It is interesting to note that Carlos highlighted that that telecollaborative session "was not productive". This is because, according to this participant, he and Joan did not speak in English because he was in a different environment from where the telecollaborative sessions always took place, that is, in the TTB laboratory. Carlos also pointed out that he had experienced inhibition due to the presence of other people, to such an extent that he did not practice English, taking into account that one of those people in that room was a foreign language teacher. The following excerpt, taken from Carlos's seventh experience report, also illustrates how this participant was concerned:

Well before the interaction ((telecollaborative session)) I had prepared a very cool dynamic activity and I believe that if the environment had not influenced this would've been our best interaction of all, I prepared 25 questions to receive an immediate reply by my interactant ((Joan's reply)), a Ping-Pong but what bothered me was the environment where I was submitted to and Joan's teacher was sitting next to her, I decided not to ask 7 questions because of the people next to me and there were several questions that she answered but fearful because her teacher was beside her. (*Excerpt 5, Carlos's experience report, original in Portuguese, 05-12-2016*)

Carlos had prepared a dynamic activity for this telecollaborative session, but he did not apply it due to the presence of other people in the room where he was, that is, next to the TTB laboratory. Interestingly, this participant, fearful that some content was not "appropriate" at the time, did not read some of the questions to Joan, as one of the people in that room was a foreign language teacher, as already said. Furthermore, Carlos explained that the same concern happened on the part of his partner Joan. In one interview, the researcher asked him how the telecollaborative session had been in that room. The following excerpt, taken from the ninth interview, portrays Carlos's comments in response to that question:

1. Carlos: There was a question... sex... I skipped... I was in ((name of the room next to the TTB laboratory))... you know because if I said she would've answered it of course...
[...]
2. Carlos: So okay then everybody was there... only I was speaking you know?... everybody was studying... "sex what does sex mean right"? like... swearword say a swearword... right? so... (*Excerpt 6, semi-structured interview, original in Portuguese, 07-12-2016*)

Excerpt 6 displays how some sociocultural features had an influence on Carlos's verbalizations, as well as the flow of the conversation itself. As stated by Kramersch and Steffensen (2008, p. 18), there are personal, situational, social and cultural characteristics related to "the complex totality of the speakers' situational positioning" (p. 18) in language learners' interaction. Indeed, although this participant informed that his partner Joan was "open-minded", since at one point he had made it clear that he felt at ease to explore a variety of subjects with her, in his discourse in turn (1) it is implied that the fact that he was in

²³ *Interactants* is the name given to the two partners who are learning each other's language in the TTB context.

room ‘X’ was the reason why he did not say the word “sex”. In turn (2), it can be suggested that the presence of other people did not encourage Carlos to pronounce the word “sex” and some types of swearwords.

Technical problems

Technical problems, such as the link to access the telecollaborative sessions on Zoom, adjustments of the computer’s audio / volume and the video-recording of the online sessions were quite frequent throughout the partnership between Carlos and Joan. The next excerpt, taken from the first telecollaborative session, is followed by the moment when Carlos talked about his friend who had participated in an exchange program in the United States. It shows how technical problems interrupted the flow of the participants’ conversation:

1. Joan: Dude... he ((Carlos’s friend)) was like... did he move to Boston or was he just visiting?
2. Carlos: He was participating in one-month exchange program.
((Technical problems occurred at 33:57)) ((at 40 minutes, Carlos could not hear his partner)) ((the computer technician asked Carlos to use another computer, but the problems remained)) ((at 46:12 the problem was finally solved and the participants got back to their conversation))
3. Carlos: What were we talking about because I even forgot it?... I’m sorry.
4. Joan: Yes I forgot it too.
5. Carlos: Gee what a mess right?
6. Joan: I don’t remember. (*Excerpt 7, telecollaborative session, original in Portuguese, Carlos and Joan, 28/09/2016*)

Nearly 34 minutes after the telecollaborative session started, there were audio sound problems and Carlos could not hear Joan. Shortly afterwards, the computer technician asked the former to use another computer, but a few minutes later the problem was solved and the participants started talking again. In turn (3), Carlos made it clear that he was unable to remember the topic they were discussing earlier, and Joan, in turn (4), said that she was also unable to recall it. In turn (5), Carlos uttered the word “mess” referring to such technical restrictions and, in turn (6), Joan reiterated what she had said in turn (4). A moment later in that telecollaborative session, these participants got back to talking about how much Joan had enjoyed the city of Rio de Janeiro, bearing in mind that she had already lived in Brazil.

As a result of these technical problems, it became clear, in Excerpt 7, how the dialogue between Carlos and Joan was negatively affected. Kramersch and Steffensen (2008) reminded us earlier that the EA can help in understanding “the relationship of individuals and their objects or artifacts, in particular computer technology” (p. 24). In fact, it was possible to see, in this excerpt, the way in which the interaction between these two participants was interrupted by computer technical problems, which had an effect on the course of the conversation. Malinowski and Kramersch (2014, p. 21) warn that problems of this nature can lead learners to “devote all their attention to the technology itself at the expense of deeper negotiation of social and cultural meanings, let alone of worldviews”, *in lieu* of a major focus on their learning progress or on the discussion of different topics.

Worry about the presence of a third person during the telecollaborative session

As was explained previously, the telecollaborative sessions usually took place in the TTB laboratory. However, Carlos and Joan, at one point of the data collection period, scheduled an extra

telecollaborative session, and they decided to interact from their own homes. Two weeks later, Carlos pointed out in his experience report that having interacted from home was very valuable. Moreover, he claimed the following: “in my opinion having interacted from my place was very nice because I could show her ((Joan)) what my reality was and I was able to realize that she ((Joan)) really is a very humble person”.

In the middle of that extra telecollaborative session, Carlos’s mother joined the conversation between her son and Joan. The next excerpt, taken from Carlos’s sixth experience report, was written two weeks after the telecollaborative session in question, and it depicts how this participant felt about his mother’s participation in this conversation:

At one moment of the interaction my mother would like to talk a little to her ((Joan)); Joan with all due friendliness in the world didn’t see any problem about my mother having interacted with us, my mother asked her ((Joan)) about the USA and she explained everything she had already told me, in a clear and simple way. (*Excerpt 8, Carlo’s experience report, original in Portuguese, 01-12-2016*)

Different issues, such as the large number of motorcycles in Brazilian and U.S. roads and Joan’s general perceptions of Brazilian cultural references, came out during the participation of Carlos’s mother in this telecollaborative session.

Although Carlos acknowledged that his mother’s participation in the conversation was convenient for Joan in the sense that she was able to get to know his mother, Carlos named this participation as a “hindrance”. The subsequent excerpt, taken from the eighth interview, presents this participant’s answer to the researcher’s question concerning the reason why he had used “hindrance” in his experience report:

1. Carlos: We had begun to speak... Portuguese... then we switched to English... and she got excited... you know?
2. Researcher: Who?
3. Carlos: Joan... if it were me and her there... the conversation would’ve flown... Then after 26 minutes or so, I immediately switched the language... right? then we started to speak in English and it continued... so my mother asked me to participate in ((to join the conversation)) and I was sorry to say “no mom you won’t join our interaction ((telecollaborative session))” and I said “let it go right?” and everything Joan had told me she told my mother... you know? (*Excerpt 9, semi-structured interview, original in Portuguese, 01-12-2016*)

In turn (1), Carlos made it clear that he and Joan, after having spoken in Portuguese at the telecollaborative session, started to speak in English and, in turn (3), he explained that his mother asked him to join the conversation. Also in turn (3), Carlos stressed that Joan had discussed with his mother most of the subjects that they had previously dealt with in the telecollaborative session.

In his experience report, Carlos also explained that from the moment his mother started participating in that telecollaborative session, the amount of time set aside to practice English was affected. In this way, it is possible to see how the interaction between Carlos and Joan needed to be, to a certain extent, adapted to the situation that was in progress. That is to say, as Carlos was interacting from his home (and not in the TTB laboratory, as usual) and his mother did not speak English, he did not have the opportunity to talk to his partner in that language any longer. This “adaptation” corroborates with Kern (2014), in the sense that it is necessary, in the context of language learning, to adapt language and communicative forms according to the specificities of each situation.

Excerpt 9 sheds light on how the presence of a third person, Carlos’s mother, influenced the

participants' interaction in the telecollaborative session, such as the choice of the topics debated, the language through which they expressed themselves and the way in which the subjects were explored. This is in line with Kern (2014, p. 344), who argues that each piece of interaction in online environments is "shaped by the conditions and constraints of particular communicative contexts".

FINAL REMARKS

Kenski (2011, p. 217, our translation²⁴) states that the development of pedagogical activities through digital technologies entails "the possibility of transcending the physical and temporal limits of classrooms and reaching the people who want, are interested and are connected in the same desire to learn". In this regard, building on the data analysis outcomes of our study, the telecollaborative sessions favored the contact between language learners who were geographically distant and who had the purpose of learning not only a foreign language, but also cultural aspects, far beyond the boundaries of the classroom.

As said earlier, as a means of achieving the objective of this study, that is, to discuss, through the EA, different aspects that influenced the participants' interaction in the telecollaborative sessions, the following research question was outlined: what aspects influenced the participants' interaction in the telecollaborative sessions? In response to this research question, the data analysis highlighted five aspects that influenced the participants' interaction in the telecollaborative sessions: (1) restricted language abilities; (2) concern because the telecollaborative session was being video-recorded; (3) a "different" learning environment; (4) technical problems and; (5) worry about the presence of a third person during the telecollaborative session.

The first aspect, *restricted language abilities*, showed that reduced abilities to communicate in the foreign language had an impact on the "flow" of the conversation itself. *Concern because the telecollaborative session was being video-recorded*, the second aspect, shed light on the fact that the participants having "suspected" that the telecollaborative session was being video-recorded led one of them to pay attention to his surroundings to make sure that no one was overhearing their conversation in the TTB laboratory. The third aspect, a *"different" learning environment*, illustrated how some sociocultural characteristics as well as the progress of the telecollaborative session itself had an impact on the choice of the subject to be discussed, while *technical problems*, the fourth aspect, demonstrated how the dialogue between the participants was affected due to technical problems. Lastly, the aspect *worry about the presence of a third person during the telecollaborative session* revealed that the flow of the interaction between the participants had to be "adapted" since the mother of one of them joined the online session.

We recommend that practitioners, researchers and teachers in the area of telecollaboration should be attentive not only to the five aspects that emerged in this study, but also to others that may arise in future telecollaborative projects, since different aspects, including language abilities and technical problems, as the study outcomes showed, have a significant impact on the participants' interaction. In this undertaking, taking into account as a research problem the teaching and learning in online contexts (e.g. telecollaboration, videoconferencing and applications), we suggest that different approaches are needed, and the EA, used in this study, appears to be a suitable alternative. Furthermore, even though the data results provided valuable insights into the EA in telecollaborative sessions, further investigations in different telecollaborative or other online contexts are needed with the aim of expanding the understanding of aspects that can influence the participants' interaction. In what follows, we will point out two suggestions for future research.

²⁴ Original quote: "a possibilidade de transpor os limites físicos e temporais das salas de aula e alcançar as pessoas que querem, têm interesse e estão conectadas no mesmo desejo de aprender".

The application of different research techniques, mainly the experience reports and the interviews, helped in understanding more deeply the data, which means that we were able to take a more ecological research view through the use of different methodological resources. Otherwise said, we had the chance to acquire a more holistic view of the data, that is, the interconnection, interaction and interdependence (KRAMSCH; STEFFENSEN, 2008) between our multiple collection instruments. Thus, we suggest that future investigations should also include methodological resources, such as the ones we used but also others where necessary, to better understand what can have an effect on the participants' interaction in telecollaborative sessions.

The telecollaborative sessions in our study were not bound to classroom content or to a language syllabus. However, considering that they can also be “embedded in regular foreign language lessons” (ARANHA; CAVALARI, 2015, p. 763), future research could, from the EA, concentrate on the participants' verbalizations in the classroom by having them report on their online sessions. As stated by O'Dowd (2016, p. 282) “practically none of the studies used classroom interaction transcripts or field notes to explore how teachers engaged with learners in the analysis of their online interactions”.

Last but not least, providing students with the practice of English through intercultural encounters, that is, the contact with other English speakers, is often a challenge. In this sense, telecollaboration is at the service of teachers, who can mediate the encounters between students and cultures. For this purpose, the EA can provide a more holistic look (KRAMSCH; STEFFENSEN, 2008), contributing to the identification of various aspects that can both positively and negatively influence the interaction and, consequently, students' learning.

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