Abstract

In the context of foreign language education (FLE), virtual exchanges (VE) involving videoconferencing are becoming an increasingly widespread practice. It is to be expected that students face challenges as they may not have developed the skills necessary to successfully carry out these types of online intercultural interactions naturally. In order for them to get the most out of the collaborative learning experience, teachers must engage in the process of teaching students how to do so. With this in mind, this case study analyses the impact that VE teachers’ mentoring had on the development of students’ videoconferencing skills by conducting a qualitative content analysis of pre- and post-intervention videoconference recordings, as well as students’ reflections in their personal portfolios. Despite the limitations identified, the results of this study point to the importance of providing adequate videoconferencing mentoring to improve the VE learning experience and its learning outcomes.

Keywords: foreign language education; intercultural communication; pedagogical mentoring; videoconferencing; virtual exchange
1. Introduction

The pedagogical approach of Virtual Exchange (VE) has developed exponentially over the last two decades. VE is an umbrella term that refers to the engagement of groups of students in online intercultural interaction with students “from other cultural contexts or geographical locations as an integrated part of their educational programmes and under the guidance of educators and/or expert facilitators” (O’Dowd, 2018, p. 5). The growing interest in this pedagogical approach in the context of Foreign Language Education (FLE) at university level is due to its potential to develop learners’ language skills and Intercultural Communicative Competence (ICC) (Byram, 1997) as well as educating global citizens who will “be able to live and work in the globalised world” (De Wit, 2016, p. 75), a priority of 21st-century education. However, online intercultural interactions do not always ensure the development of intercultural awareness, and expecting students to develop these skills naturally would be a mistake (Godwin-Jones, 2019; O’Dowd & Eberbach, 2004). At the same time, assuming that students will be information-skilled and prepared to successfully navigate their online interactions based on the categorisation of digital natives – individuals who have coexisted with technologies throughout their lives (Prensky, 2001) – is a common misconception in current educational contexts with no scientific evidence (Kirschner & De Bruyckere, 2017). In order to foster students’ skills development as well as maximising the videoconferencing collaborative learning experience, VE teachers have a critical role to play in helping students to successfully (i.e., effectively and appropriately) navigate online intercultural interactions (Gutiérrez et al., 2021; O’Dowd et al., 2020), achieving positive interactions and collaborations with their international partners, which in turn will help them gain confidence, foster participation and reach the desired learning outcomes (Dooly, 2008). Some of the main challenges identified in the literature regarding students’ experiences of videoconferencing during their VEs include technological issues (Çiftçi, 2016; Liaw, 2006), difficulties in managing organisation (Marull & Kumar, 2020) as well as communicative aspects such as FL anxiety, communication breakdowns (Çiftçi, 2016; O’Dowd, 2006) and culture-related issues (Guth & Helm, 2012). This study focuses on videoconferencing skills in the context of VE, an under-researched area. In particular, we look at skills that involve successfully dealing with aspects such as technical issues, session organization, group negotiation of online behaviours, and (in)effective communicative strategies.

With this in mind, this case study analyses the impact that VE teachers’ mentoring had on the development of students’ videoconferencing skills by conducting a qualitative content analysis of pre- and post-intervention videoconference recordings, as well as students’ reflections on personal portfolios.
2. Videoconferencing in VE

Videoconferencing can be defined as “quality audio and visual transmissions in real-time interactions across locations” (Pringle et al., 2010, p. 52). In the context of VE, videoconferencing allows participants to “see and speak to their partners in real time” (O’Dowd & Eberbach, 2004, p. 6). This practice has progressively become more widely available, contributing to students’ engagement in authentic online interaction with international partners that is ‘similar to face-to-face (F2F) communication’ because of its immediacy and visual images (Strømsø et al., 2007). However, ‘similar to face-to-face communication’ does not mean ‘equal’ since all online means of communication, be they synchronous or asynchronous, carry their own conventions which differ from those of F2F interactions (Bailenson, 2021; Guth & Helm, 2012). These interactions can take place among FL learners and native speakers, among FL learners studying each other’s language and culture, as was the case of this study, and also among FL learners using a lingua franca aiming at improving their FL skills (Fernández Cuenca & Muller, 2021). Recent studies exploring videoconferencing in VE have acknowledged (communicative) pedagogical advances but also difficulties that students engaging in this mode of communication face during VE, which will be discussed in the following sections.

2.1. Benefits of videoconferencing in VE for FL learning

Studies have identified numerous benefits that videoconferencing has on telecollaborative interactions, specifically for FL learners from diverse cultural backgrounds who engage in collaborative learning activities via Synchronous Computer-Mediated Communication (SCMC) tools (Fernández Cuenca & Muller, 2021). In the initial stages of this practice, O’Dowd (2006) provided an overview of the experiences of language educators implementing videoconferencing, where he notes how this mode of interaction brought dynamism to communication between learners in international working groups by enabling them to quickly address their questions and explanations. A greater potential for this communicative modality had also been observed in the literature towards establishing the students’ social presence (Rourke et al., 1999) and the development of interpersonal relationships between participants. Furthermore, Ware (2005) found that the synchronous communicative mode favoured a more communicative approach in VE participants’ interactions. Other studies have reported on the potential impact that videoconferencing has on students resulting in greater engagement in the negotiation of meaning (Ross & DiSalvo, 2020), as well as greater understanding between interlocutors (Wang, 2006) and a higher amount of discourse production compared with other synchronous communication tools (Yamada & Akahori, 2007). Gains on various FL skills as well as intercultural awareness (Byram, 1997) have been pinpointed (Marull & Kumar, 2020) thanks to the immediacy of videoconferencing that encourages students to engage both in the
communication and debate of culture-related issues more promptly, even those which proved more challenging within asynchronous scenarios (Müller-Hartmann, 2000). Regarding VE participants’ perceptions, teachers also report that videoconferencing constitutes a less ‘threatening’ scenario for FL interaction through which foreign language anxiety can be reduced compared to the traditional F2F (Carter & Nunan, 2013).

2.2. Challenges of videoconferencing in VE for FL learning

Videoconferencing also proves to be highly demanding and poses several pedagogical challenges (Ware & Kramsch, 2005) that VE teachers need to be aware of. Some of the main issues encountered by VE participants in videoconferencing in very early stages include scheduling synchronous sessions and dealing with anxiety as a result of interacting in their FL with native speakers (Marull & Kumar, 2020). Being watched by others while speaking causes physiological stress (Takac et al., 2019); at the same time, O’Dowd (2006) signalled that the fact that FL speakers feel observed during videoconferencing contributes to greater discomfort when silences occur as they search for words in their FL.

Moreover, the possibility of technological issues adds to students’ nervousness (Çiftçi, 2016; Liaw, 2006). In the Leverage Project (Zähner et al., 2000), for instance, it was identified that transmission delays negatively affected interlocutors’ turn-taking processes. Turn-taking is another aspect that a priori is not too problematic in the context of F2F communication where people can draw meaning from body language and facial expressions (Kleinke, 1986). In the context of videoconferencing, however, it is advisable that the interlocutors agree on turn-taking strategies (Gutiérrez et al., 2021) since aspects such as delays in transmissions (Zähner et al., 2000) or the reduction of communicative cues (Pringle et al., 2010, p. 55) negatively affect this process causing long silences or interruptions between interlocutors. Along these lines, since videoconferencing exchanges bring interlocutors fewer and different communication cues than in F2F communication, the impact of these increases (see Walther et al., 2015, for a review).

Another aspect worth mentioning is the fact that communication via videoconference has also been reported in the literature to be more prone to misunderstandings if compared to other communicative tools such as chats (Van der Zwaard & Bannink, 2014). However, while the real-time nature of videoconferencing makes it more challenging for students to understand each other, learning from successful interactions is “insightful and rich with respect to cultural learning” (O’Dowd, 2006, p. 102).
2.3. Videoconferencing and pedagogical mentoring in VE

As suggested earlier, there is a widely held assumption in education that students tend to be ‘digital natives’ (Prensky, 2001). Nonetheless, the so-called digital natives benefit from mentoring in effective digital communication just as much as their predecessors (Kirschner & De Bruyckere, 2017). In the context of VE, it has been observed that students require “both support and training in order to participate successfully in online intercultural exchanges” (O’Dowd & Eberbach, 2004, p. 17).

Within VE, O’Dowd et al. (2020) define pedagogical mentoring as “the strategies and techniques that teachers use in their classes to support students’ learning during virtual exchange projects” (p. 147). Our work focuses on what they classify as pedagogical mentoring type 3: integrating students’ online interactions into class. In this type of mentoring, teachers integrate issues that may arise during the students’ online interaction into their classes through examples. Practitioners implementing this type of mentoring use the students’ VEs as content in the class to highlight specific cases of language use or cultural subjects in the recordings or transcripts. According to this definition, and to Lewis et al. (2011), for pedagogical mentoring to be effective in videoconferencing and help students benefit from their interactions, it should be fully integrated into the course in which the VE project is being developed. In-class time should be devoted to the VE experience both before and after the videoconference takes place (O’Dowd, 2006) to prepare students for effective online intercultural interaction first, and to discuss and reflect on their experience subsequently (Gutiérrez et al., 2021; Furstenberg, 2010).

Given the cross-disciplinary nature of VEs, the (videoconferencing) pedagogical mentoring offered by teachers should address certain areas such as effective technology use, organisational skills, group behaviours, common concerns and issues, and/or (in)effective communication strategies taking into account the technological, intercultural and linguistic levels (Gutiérrez et al., 2021, 2022). In a review of online intercultural learning, Çiftçi (2016) recognised the relevance of offering technical and communication skills mentoring to avoid misunderstandings or communication breakdowns or at least prepare students for them. In addition, Dudeney and Hockly (2012) pointed to the need of “facilitating and guiding [our] students in the language learning process” (pp. 541-542) in videoconference-based VEs.

However, providing mentoring to participants does not ensure the success of intercultural communication during videoconferencing as there may be certain factors outside the instructor’s control, such as whether or not students apply the strategies they have been taught (Çiftçi, 2016; Lee,
3. Case study

3.1. The virtual exchange: Research context, participants, tools and procedures

In Autumn 2021, the authors conducted a ten-week bilingual and bicultural VE between a Spanish and an Irish university. Four teachers and 63 students were involved in the exchange: 18 students of English and 45 students of Spanish. There were nine groups that had an average of five Irish students and two Spanish students each.

The VE consisted of multi-stage telecollaborative tasks (O’Dowd & Ware, 2009) to develop students’ global and ecological mindedness (Dobson, 2007; OECD, 2018). Students had three videoconferences during the project, aligned with the three tasks they had to engage with: (1) getting to know each other, (2) comparing and analysing cultural practices, and (3) collaborating in the creation of a telecollaborative product. For the purpose of this paper, the authors will focus on videoconferences 1 and 2 as the pedagogical intervention took place between those. One aspect that needs to be considered is the nature of the tasks. Apart from the mentoring, the different nature of videoconference 1 (in which students focused on getting to know each other) and videoconference 2 (in which they discussed local ecological problems guided by pre-prepared presentations) gave rise to distinct types of interactions, i.e., more social and dialogical were evident in the first, and more topic-focused and monological were seen in the second.

The Research Ethics Committees at the Universities validated the experiment design, volunteer status of participants and anonymity in accordance with official practices, complying with GDPR regulations and students’ consent. Zoom was the videoconferencing tool used for the videoconferences, all of which were recorded and then transcribed for research purposes. The first step in preparing the mentoring intervention was to analyse the videoconference 1 recording for all nine groups, so as to look for illustrative examples of successful videoconferencing as well as rich points which Agar (1994) describes as “the most interesting problems” when “two languacultures come into contact” (p. 99). Once examples of (in)effective online intercultural video communication strategies from students’ interactions during videoconference 1 had been identified, they were anonymised and categorised according to the main benefits and challenges found in the literature in terms of videoconferencing performance of VE participants, as discussed in the literature review section.
The result was the creation of four categories for the mentoring intervention: (1) technical aspects, (2) session organisation, (3) group negotiation of online behaviours and (4) (in)effective communicative strategies. Beyond the aspects analysed in these categories – presented in Table 1 in the Appendix – these videoconferences aim to foster not only ‘soft skills’ and intercultural competence (Martin & Nakayama, 2015), but also build “positive relationships across cultures and engagement” among students from different backgrounds. As Helm (2019) claims, “[i]t is also viewed as a way of developing transversal skills such as intercultural communication, teamwork, problem-solving, foreign languages, which are seen to be fundamental for employment” (p. 3).

Having identified and anonymised the relevant examples from videoconference 1, these were grouped into the four categories and displayed in a presentation that was delivered by each of the local VE teachers during class time (i.e., a one-hour session at each institution). At the same time, the slides were shared with all the VE participants in their virtual learning environment (i.e., Schoology) where all the materials and instructions for the VE project were accessible to them. All VE participants were encouraged to review these, especially those not present in the mentoring session, in order to ensure that all had received the mentoring and were therefore under the same circumstances for videoconference 2 to ensure comparability.

The goal of this mentoring was to prepare FL students to successfully engage in online intercultural interaction and to improve their collaboration in videoconferences. With the purpose of achieving this goal, the dynamics of the mentoring intervention session consisted of the engagement of VE participants in the active process of analysing the excerpts presented. For each category, participants were presented with a slide with anonymised excerpts and posed the question “What do you think about the following extracts? Are they DOs or DON’Ts?”. Figure 1 in the Appendix corresponding to the (in)effective communicative strategies category illustrates this. For the purposes of clarity, the codes used in Figure 1 and throughout the paper are SP for students registered in the Spanish University or IRE for students registered in the Irish University. All interventions in Spanish have been translated into English for clarity and appear as Sp.

After discussing in small groups as well as with the big group the examples proposed (1 to 5), the teacher would proceed to show a slide offering recommendations (1 to 5). Figure 2 (see Appendix) offers an example of the recommendations that correspond to Figure 1. This process was repeated for all the categories. The full presentation used for the implementation of the mentoring can be accessed through the IRIS database.
This intervention format allowed VE participants to proactively engage in the process of unveiling the strategies that promote successful interactions and propose alternatives in the case of failed interactions and communication scenarios. So that the reader clearly understands the mentoring dynamics, two of these examples are further explained below. In example (1), corresponding to example (5) in Figure 1, a Spanish student used the verb ‘liar’ [to mess it up] without further explanation.

\[
\text{(1) SP1: } \text{¡La vamos a liar! [We’re going to mess things up!]} \\
\text{(Sp, Pre-I, group 3)}
\]

During the pedagogical intervention, students were asked whether this sentence would be easily understood by Irish speakers and several students from both groups mentioned that ‘liarla’ would be difficult to understand because it was a colloquial term. Teachers then encouraged students to look for solutions to make sure communication would flow even when students encounter unfamiliar terms. Students suggested that the listener should ask for clarification when they don’t understand an expression or term and that the speaker should provide a short explanation, which were the suggestions teachers expected students to provide (as seen in recommendation 5 in Figure 2). Example (2) below, corresponding to example 3 in Figure 1, was used as good practice when asking for clarification or help (see recommendation 3 in Figure 2):

\[
\text{(2) IRE1: } \text{How do you say ’cool’ in Spanish?} \\
\text{SP1: } \text{‘Guay’} \\
\text{IRE1: } \text{I can’t speak like young people do!} \\
\text{(Sp, Pre-I, group 1)}
\]

This inductive approach to the mentoring exercise resulted in the active participation of students who had to evaluate different interventions and negotiate the best way to approach certain communicative failures, thus raising awareness of possible communication breakdowns and allowing them to anticipate them as well as resolve them successfully when they emerge. The post-analysis of videoconference 2 allowed us to explore to which extent VE participants applied these recommendations into their communication post-intervention.
3.2. Research questions

Our study addresses two different but related research questions:

- Does pedagogical mentoring have a positive impact on students’ videoconferencing skills?
- Which aspects of the mentoring (i.e., technical aspects, session organisation, group negotiation of online behaviours, communicative strategies during videoconferencing) are most effective?

3.3. Data collection and analysis

The authors collected two types of data: conversational and self-reporting data. Conversational data were gathered from the recordings of two videoconferences. The first videoconference occurred before the pedagogical mentoring in week 3 (Pre-I) and the second one after the mentoring in week 5 (Post-I) midway through the VE project. Student interactions in these two videoconferences were transcribed. Self-reporting data, on the other hand, were retrieved from the students’ portfolios submitted at the end of the semester and where they reflected on their learning process during the VE.

The data was first anonymised and subsequently analysed through thematic analysis (Braun & Clarke, 2008) using Nvivo and following Braun and Clarke’s (2008, p. 87) phases of analysis: (1) familiarizing yourself with your data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes, (5) defining and naming themes, and (6) producing the report. This recursive process allowed us to provide appropriate interpretations for the data within the context of the VE. To ensure intercoder reliability, the three authors coded three groups’ transcripts together, discussed the codes, and refined them as necessary. Each author analysed the remaining transcripts individually, and cases that were ambiguous or difficult to classify were again discussed among the three authors. A similar process was followed with the learning portfolios: ten portfolios were analysed by the three authors and subcategories and codes were refined where necessary; the rest of the portfolios were analysed by each researcher independently. Discrepancies and difficult cases were analysed by the three researchers in a subsequent meeting. The names included in the examples are pseudonyms.

3.4. Results

The results presented here analyse the most salient evidence and effects of mentoring of the four categories examined. The results include conversational examples in the pre- and post-intervention
phases (*Pre-I* and *Post-I*), and where relevant, students’ reflections about these in their portfolios. Comparing evidence in tasks 1 and 2 will allow us to analyse learners’ gains (or lack thereof) systematically in the various categories across the groups involved. The inclusion of individual reflections will be used to shed light on the findings through post-conversational considerations that might not have been explicitly mentioned during the interaction.

3.4.1. Technical aspects

This part of the mentoring focused on bringing students’ attention to technical aspects key to having a successful videoconference (i.e., using the microphone or recording the session). Although examples for this category are few, probably because technical aspects are hands-on rather than explicitly discussed, there is progress between the pre- and post-intervention.

While three groups referred to the recording in the pre-intervention, six did so during the post-intervention (two of which had mentioned it before the intervention). Relevant examples for the post-intervention include:

(3) SP1: Okay, we’re recording already.

(*Post-I*, *group 3*)

No reference to use of the microphone was found in the pre-intervention and only two were identified during the post-intervention (*groups 1 and 4*). The following example illustrates students following the recommendations provided:

(4) SP1: Victoria, your mic is not working.
IRE2: [Oh] No! I had muted it so that you don’t hear the noises in the background.

(*Sp, Post-I*, *group 1*)

Appropriate use of the camera was not mentioned in the students’ interactions, although some reported they had learned to look to the camera while speaking instead of looking at the screen during the post-intervention:
I have learned to get in front of a camera and express myself better. As I said before, I am shy when it comes to speaking to a camera and to people, I don’t know at all, so this project has made me get rid of that shyness a bit.  

(Post-I, group 9, portfolio)

3.4.2. Session organisation

This category highlighted the importance of organisational aspects that could help improve communication during videoconference encounters such as creating an agenda, establishing roles or time difference across the two countries.

The pre-intervention stage reveals a lack of organisation both in relation to the agenda and a lack of initiative in taking different roles. Thus all groups would have benefitted from the establishment of an agenda:

(6) IRE1: What the hell are we supposed to be talking about here?  
IRE2: I don’t know. I was looking it up there, we will figure it out.  

(Pre-I, group 7)

In the post-intervention, however, all groups had a structured agenda, and had assigned roles (e.g., chairperson, notetaker or spokesperson):

(7) SP2: What I learned is that before making a video call [...] it is also important that a person in the group be the leader and organize the structure of the video call, in our case control the time we should speak in English and Spanish.  

(Post-I, group 2, portfolio)

Overall, planning was taken as key to their interactions and future careers as reflected below:

(8) IRE3: I have learned that organisation and planning are essential, coordination between time zones and the creation of shared units and other plans were all useful experiences and I think they will be useful in the future.  

(Sp, Post-I, group 3, portfolio)
If you start working in a company, this type of meeting is the day-to-day... It is the same format, with an agenda, with someone that you may be leading today.

(Post-I, group 2, portfolio)

3.4.3. Group negotiation

This category explored how to navigate negotiation of online behaviours, particularly establishing turn-taking strategies and guidelines to use the chat box appropriately.

Periods of silences and/or overlapping interventions were identified in the pre-mentoring sessions, which suggests that their interactions could have benefitted from establishing some guidelines regulating the dynamic of the groups. Thus, in the mentoring intervention participants were advised to agree on turn-taking strategies such as raising their hand, using the chat box to avoid talking over each other, or simply (un)muting themselves. Participants were encouraged to set ground rules on how they wanted to use the chat box, such as asking questions, taking notes, etc.

The post-intervention does not reveal explicit references to turn-taking strategies, either because students didn’t think it was important, or because they might have discussed these issues through informal communication channels (e.g., a WhatsApp group) - this cannot be verified since only students had access to communication outside their videoconferences. A relevant use of the chat box, scarce in videoconference 1 (one group), abounded in videoconference 2 (5 groups). These groups used it to share links, propose ideas, communicate when the sound failed, or show word spelling:

Can you write it in the chat though? How you spell it.

(Post-I, group 5)

3.4.4. (In)effective communicative strategies

The largest section we addressed during the mentoring covered (in)effective communicative strategies that looked at a range of different issues students should take into account during their videoconferences.

3.4.4.1. Respect the use of languages

Due to the bilingual nature of the VE, students were instructed to respect the use of languages and not to resort to their first language when having difficulties communicating. In general, all groups
collectively decided at the beginning of each session what language they would speak during the first half and which one during the second half and behaved accordingly. Overall, students did not try to resort to their first languages to communicate more easily. We see two examples in groups 1 and 2, however, in which students insert English comments into the Spanish part of the conversation in the pre-intervention but not in the post-intervention. In (11) IRE1 resorts to English to translate their Spanish intervention, which seems to point to their lack of confidence in his Spanish skills. They do not resort to this translation strategy in the post-intervention and, as illustrated in (12), they are the ones initiating the change to Spanish.

(11) IRE1: First of all I want to say that my level of Spanish is not very high and I don’t know if I can speak in Spanish for half an hour, I’m sorry before we start. (IRE1 says this in Spanish and immediately translates the intervention into English).
   SP1: Don’t worry about it.
   SP2: You are doing a great job.

(Post-I, group 1)

(12) SP1: So, now I think that we can talk about your problem because we have talked enough about ours.
   IRE1: So maybe we’ll talk in Spanish then.

(Post-I, group 1)

Comments from the portfolios also indicate an enhanced awareness towards respecting languages in the second session.

(13) SP2: We had the time more controlled, after 30 minutes of speaking in Spanish we changed to English for another 30 minutes.

(Post-I, group 4, portfolio)

3.4.4.2. Ask for clarification

The mentoring intervention also encouraged students to ask their peers to repeat, slow down or explain what they meant if they did not understand something. Overall, most groups navigated the conversations successfully, asking for help when they felt their lack of vocabulary could cause a communication breakdown. We see four groups in particular (1, 2, 4 and 8) where there is a clear
improvement from the first to the second videoconference in this respect. In group 4, for example, we just see one example of a student asking for clarification in the pre-intervention but we see nine examples in the post-intervention. IRE4, for instance, asks for clarification in the pre-intervention once but does so four times in the post-intervention. Due to space limitations, we include two examples:

(14) IRE4: I went to Asturias in...how do you say ‘secondary school’ in Spanish?  
SP1: ‘Instituto’.  
(Sp, Pre-I, group 4)

(15) IRE4: And the animals, the cows, like ‘methane gas’, how do you say that?  
SP1: ‘Gases de metano’.  
(Sp, Post-I, group 4)

Some comments from students' portfolios also show how they became more comfortable asking for help from their international partners during the course of the exchange:

(16) SP2: [W]hat I learnt from these interactions is that we all have difficulties when we talk in a language which is not our mother tongue[.] Whenever we would not remember a certain word or asked what something meant in the other language, we were all willing to help.  
(Post-I, group 1, portfolio)

3.4.4.3. Explain meaning of unfamiliar concepts and expressions
The authors also asked students to explain the meaning of concepts or expressions that may be unfamiliar to their partners. Generally, students did not anticipate the meaning of a word unless it caused some type of communication breakdown or they were asked about it directly. However, in groups 1, 2 and 4, we see an improvement between the pre- and the post-intervention with students more proactively explaining concepts they felt their international partners may not understand because they were either too technical (for instance, when talking about environmental problems) or culturally bound (when talking about things that are typically Irish or Spanish). For example, no instances of students explaining concepts in the pre-intervention appear in group 1, but we have three examples in the post-intervention (we include only one due to space limitations):
3.4.4.4. Encourage participation
Despite any academic, cultural and personal differences which may affect the interaction, data suggests that six groups out of the nine encourage participation in one way or another: group 4 in the pre-intervention, three groups in both the pre- and the post-intervention (2, 4, 7), and two groups in the post-intervention session (6, 9). Examples from the post-intervention include:

(18) SP1: Perhaps José and Marta, you’d like to add something to what I just said?

(Post-I, group 9)

Examples of this category are most frequent during the post-intervention session, and from students from the Spanish university. This indicates that as the project unfolded, students seemed to be more comfortable encouraging others to participate to keep the flow of the conversation.

In the portfolios students emphasised how participation was encouraged after the first meeting:

(19) SP1: The Zoom meeting was great. Meeting our partners from Dublin made it easier to communicate with them in the next stages. During the call, some people talked more, and others less. But it was gratifying to see that each of us tried to involve the shyer ones, so each of us spoke.

(Post-I, group 4, portfolio)

3.4.4.5. Link communication across channels
Only group 2 refers to any posts in the forum explicitly in the pre- and the post-intervention. It is in fact the same student who refers to his own post in videoconference 1 and to someone else’s post in videoconference 2. This indicates that the impact of the mentorship regarding this aspect is minimal.

It is interesting nonetheless that participants acknowledged the use of non-formal channels to communicate and advance their tasks:
As we had been talking by WhatsApp during those weeks, we had more confidence to talk during the meeting. We listened carefully to each other and asked a lot of questions because it was interesting to comment on our thoughts about these themes.

(Post-I, group 2, portfolio)

3.4.4.6. Take into account what others said
The mentoring also brought students’ attention to the fact that, in order for a conversation to flow naturally and be effective, they should pay attention to the content of the interventions and reply accordingly. While there is evidence of this element in one group in the pre- and post-interventions, three groups (1, 7, 9) followed these recommendations in the videoconference 2, where some students paid close attention to what their partners were saying to advance the task and contribute to building up more sophisticated content among members of the same group:

And, you said that they inject antibiotics into the meat, why exactly do they do that? I haven’t heard of that happening in Ireland.

(Post-I, group 4)

Overall, students maintained coherent and dynamic conversations that took into account others’ contributions. The intervention and the nature of the tasks affected the flow of the conversation and how the members in the groups took into account what others had said. It is natural that there is more evidence in the second videoconference, after the intervention: students had to pay close attention to what was being said given the complexity of the topics and the collaborative nature of the task – which focused on the presentations.

3.4.4.7. Talk about things that are not part of the task itself
Finally, during the pedagogical mentoring, students were encouraged to talk about things that were not part of the task itself. Students showed more willingness to engage in free conversation unrelated to the task in the pre-intervention session than in the post-intervention session, which is in line with what each type of task required.
This could be the start of a good friendship. I’d love it and I think it will happen. Whenever we can travel, you can visit us, or we can visit you.

The nature of the second task led to much more focused interactions and at times monologic interventions. In most groups, dynamics consist of a presentation followed by a short discussion. Most of the interaction focuses on how to get the task completed. There are some examples of natural conversation in the post-intervention but not as many as in the pre-intervention. The following illustrates how students break the ice talking about the COVID-19 restrictions:

I don’t know if the last time we spoke, if the bars were already shut but they are closed now. There isn’t anything open except the hairdressers, uni, the hospital.

Here our barbers are closed.

The hairdressers are open in Spain?

Yeah.

You’re very lucky! My hair looks very bad.

4. Discussion and implications

This article aimed to explore whether a pedagogical mentoring designed by the teachers of a bilingual-bicultural exchange had a positive effect on students’ videoconferencing skills and, in particular, which part of the mentoring was more effective. This was motivated by the rapid growth of videoconference-based VEs and as an attempt to redeem some of the challenges outlined in the literature such as technological issues (Çiftçi, 2016; Liaw, 2006), difficulties in managing organisation (Marull & Kumar, 2020) as well as communicative issues such as FL anxiety, and communication breakdowns (Çiftçi, 2016; O’Dowd, 2006)

Taking this literature into account, four categories (i.e., technical aspects, session organization, group negotiation of online behaviours, and (in)effective communication strategies) were used to design the pedagogical mentoring. Our pedagogical mentoring follows the Assessment of Transversal Skills
framework, where transversal skills are understood as a broad set of key skills focusing on elements such as autonomous learning, collaboration and communication among others (European Commission, 2020, p. 5). The transversal skills discussed in our results find resonances of these traits including “the ability to think critically, take initiative, use digital tools, solve problems and work collaboratively” (p. 5). These are also in line with other frameworks, in particular the European Commission’s Key Competences for Lifelong Learning (2019), where multilingual and digital competences are particularly relevant, and the ACTFL Partnership for 21st Century Skills (2010) developed in the U.S.

Our article analysed data from students’ videoconferences and portfolios to examine the extent to which the pedagogical mentoring affected students’ performance on their synchronous conversations with international partners. In this respect, our article responds to calls in the field about using actual conversational data in addition to post-VE reflection data to support conclusions in a more comprehensive manner (O’Dowd, 2021).

Naturally, while all categories explored in the pedagogical mentoring were relevant in preparing students to successfully engage in online interaction and collaboration during the VE, some students benefitted more than others. The findings reveal that while the pedagogical mentoring had a positive impact on students’ videoconferencing skills overall, this was not always the case, and a refined reading tells us that in fact not all categories reflected an improvement.

If we look at the most effective aspects of the mentoring within the first three categories (i.e., technical aspects, session organisation, and group negotiation of online behaviours) there is genuine progress with respect to technical aspects, where an awareness of microphone use improved and where confirmation that the session was being recorded doubled after the intervention. This positive impact and better engagement were in line with findings in the session organisation where participants learned not only about the benefits of being organised, but also how to be focused and more efficient. In relation to this, students started to become aware of the transversal skills they were acquiring, particularly when they mention that being organised is important not only in VE but also in real-life tasks. Group negotiation of online behaviours, however, did not seem to be as influenced by the pedagogical intervention as only certain aspects were briefly mentioned in some groups – perhaps due to the fact that students felt uncomfortable setting ground rules among each other since this is a role usually reserved to the teacher.

The fourth category based on communication strategies seems to evidence that participants carried out successful conversations overall, but whether this is the result of the mentoring intervention cannot be determined. As for respecting the use of languages, students tended to do so even before
the intervention, with only examples of two groups making a clear improvement in the post-intervention. Additionally, while we saw improvement in four groups with regard to asking international partners for clarification, we did not see a major change in students proactively providing the meaning of unfamiliar expressions when they occur in the conversation, unless they caused a communication issue. We also have inconclusive results for the subcategory encouraging participation from shyer students as this happens both pre- and post-intervention. Communication across non-formal channels happened but it was not possible to control, and few students referred to the use of formal channels.

The nature of the two tasks determined the remaining subcategories (i.e., take into account what your partners have just said and feel free to talk about things that are not part of the task itself): participants had conversations outside the overall task in the pre-intervention when they were getting to know each other, resulting in more informal interactions about light-hearted topics such as the Erasmus year, their hobbies, etc. The post-intervention revolved around the discussion of local ecological problems guided by pre-prepared presentations where there was a clearer sense of engagement that required the use of specialised vocabulary.

With respect to the fourth category, we need to take into account that communicative strategies are hard to develop and they do so over a long period of time, so limited results are to be expected following a one-hour mentoring. In contrast, categories such as technical aspects and session organisation, where the advice was more tangible and easier to apply, produced immediate results.

The outcomes of the study need to be understood in relation to the nature of the different group composition. The nine groups of students behaved in very different ways. Some groups had a very successful conversation from the very beginning and were able to navigate all aspects related to interactions with international partners without any assistance, showing the ability to address all types of issues. For such remarkable groups, the pedagogical mentoring may not have been as necessary as for the groups that struggled with some of these aspects. These groups required more guidance and benefitted more from the mentoring.

There are certain limitations to be considered, some of which were unavoidable given the structure, nature, and context of the study. In the first place, it was not always possible to tease apart the effects of the pedagogical mentoring from the effects of students becoming more familiar and comfortable with the VE per se. It is difficult to hypothesise to what extent students following the suggestions given in the pedagogical mentoring benefitted, as improvements could also be a natural effect of students becoming more competent as they engaged in further sessions with their national and
international partners. Despite these limitations, our study contributes to understanding the process and raising awareness of the importance of guiding students through pedagogical mentoring on how to maintain a successful bilingual conversation during a videoconference encounter. This brings further knowledge to the literature which advocates for the need to engage so-called “digital native” students (Prensky, 2001) with pedagogical mentoring practices in VE in order to maximise its benefits. For the mentoring to be effective it should proactively engage students in uncovering the technical and organisational issues, as well as the strategies for effective communication in videoconferencing. The pedagogical mentoring we propose may need to be expanded, particularly in relation to certain areas such as group negotiation of online behaviours, and further reinforcement of communicative strategies may be needed. Future iterations of this mentoring should include more extensive student mentoring embedded appropriately within the course content and delivered over the span of multiple sessions.

This nuanced analysis of a pedagogical session aims to give light to future VE exercises and to open new elements of enquiry. It highlights the crucial role of the teacher in the success of a VE and the importance of equipping teachers with the right tools, strategies and skills (Gutiérrez et al., 2021) to guide students appropriately through bilingual-bicultural synchronous encounters. Finally, it provides a model that gives elements for replicability that could expand this area of research further.

5. Acknowledgement

Conflict of interest

The authors of this publication declare there is no conflict of interest.

Ethical statement and competing interests

The Research Ethics Committee at the Universities validated the experiment design, volunteer status of participants and anonymity in accordance with official practices. For more information please contact the corresponding author.

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Author contributions

All authors in this article have contributed equally towards the publication.

References


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### APPENDIX

*Table 1. Categories in pedagogical mentoring intervention*

<table>
<thead>
<tr>
<th>Category</th>
<th>Subcategory</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Technical aspects</td>
<td>Mute your microphone when you are not speaking.</td>
</tr>
<tr>
<td></td>
<td>Turn on your camera.</td>
</tr>
<tr>
<td></td>
<td>Press the record button.</td>
</tr>
<tr>
<td>2. Session organisation</td>
<td>Bear in mind the time difference.</td>
</tr>
<tr>
<td></td>
<td>Prepare an agenda with the points to discuss beforehand.</td>
</tr>
<tr>
<td></td>
<td>Establish roles.</td>
</tr>
<tr>
<td></td>
<td>Establish the language that will be used beforehand.</td>
</tr>
<tr>
<td>3. Group negotiation of online behaviours</td>
<td>Agree on turn-taking strategies.</td>
</tr>
<tr>
<td></td>
<td>Set ground rules on how to use the chat box.</td>
</tr>
<tr>
<td>4. (In)effective communicative strategies</td>
<td>Respect the use of both L1 and L2.</td>
</tr>
<tr>
<td></td>
<td>Ask for clarification.</td>
</tr>
<tr>
<td></td>
<td>If you use expressions that may be unfamiliar to your partners, explain to</td>
</tr>
<tr>
<td></td>
<td>them the meaning.</td>
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<tr>
<td></td>
<td>Encourage participation by asking questions to individuals.</td>
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<tr>
<td></td>
<td>Link your communication in the videoconferences with your communication</td>
</tr>
<tr>
<td></td>
<td>in the forums.</td>
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<tr>
<td></td>
<td>Take into account what your partners have just said.</td>
</tr>
<tr>
<td></td>
<td>Feel free to talk about things that are not part of the task itself.</td>
</tr>
</tbody>
</table>
What do you think about the following extracts?
Are they DOs or DON'Ts?

IRE: I won’t be as good at Spanish as you are at English but...
SP: Don’t worry. Go ahead, give it a try.

SP: (...) that’s what you’re saying? Because I didn’t understand correctly.

IRE: How do you say ‘cool’ in Spanish? (Sp)
SP: ‘Guay’.
IRE: I don’t know how young people talk. (Sp)

SP: Did you understand what I said? / SP: I will start talking in Spanish now... can you understand me? (...) can you understand me? (Sp)

SP: We’re going to mess things up! (Sp)

Figure 1: Mentoring intervention, Anonymised extracts.

Favour understanding and language learning

* Establish the language use before the videoconference starts.

1. **Respect the use of languages**. Even if your partners are struggling to talk in Spanish/English don’t resort to your partners’ language to go “faster”.

2. If you don’t understand, ask your peers to **repeat/slow down/explain** what they mean.

3. If you don’t know how to say something you can **ask your international peers for help** (e.g., giving them a brief explanation of the word you’re looking for).

4. **Do not constantly ask your peers if they have understood you.** If they don’t, they will let you know.

5. As it happened with communication in the forums, if you use expressions that may be unfamiliar to your partners try to **explain to them the meaning**.

Figure 2: Mentoring intervention, Recommendations.