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Preparing Students for Successful Online Intercultural Communication and Collaboration in Virtual Exchange

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ABSTRACT

In the context of Virtual Exchange (VE) it is often assumed that participants will be naturally prepared to interact online successfully with their international partners. However, there is ample evidence in the literature to suggest that VE participants are usually unaware of effective communicative strategies in synchronous and asynchronous online communicative contexts. Through action research, this article investigates how teachers can provide scaffolding for both these communicative modalities in online intercultural environments. It reports on a qualitative content analysis of conversational and self-reported data from a corpus of three VEs that were collected and triangulated in order to identify when, in what areas, and in what ways students could benefit from pedagogical mentoring. The article then presents key mentoring stages and strategies that were identified and provides insight into the type of scaffolding that VE teachers can provide their students to help them achieve successful (a)synchronous online intercultural interaction.

Virtual exchange (VE) is a pedagogical approach that involves groups of learners engaging in online linguistic and intercultural interaction and collaboration with partners from other cultural contexts or geographic locations as an integrated part of coursework, and under the guidance of expert educators and/or facilitators (EVOLVE Project Team, 2020). In VE, therefore, these geographically distant classes of students take on the role of international students to their partner classes and bring international perspectives to the collaborations and coursework. Guidance in turn refers to the support teachers provide to students in their learning during VE projects through specific strategies and techniques referred to in this article as pedagogical mentoring (O'Dowd et al., 2020).

The experience of teachers has shown that participants in VE need such pedagogical mentoring to successfully engage in online cross-cultural interactions (Müller-Hartmann, 2012). However, teachers are often not aware of how they can best support and guide their students as they take part in online interactions which usually take place outside of class time and in digital environments and to which teachers may not have easy access. Hence, many authors argue for the need for VE teachers and facilitators to receive specific training on how to raise their learners' awareness of how to interact online (Stevens Initiative Virtual Exchange Impact and Learning Report, 2019; Dooly & Vinagre, 2021). The set of competencies teachers involved in VE need to develop includes digital literacy to successfully integrate technology into projects (Müller-Hartmann, 2012) along with what Sauro and Chapelle (2017) have termed langua-technocultural competence. This refers to the linguistic and cultural aspects of communication, including technological mediation as well as organizational and pedagogical competencies. O'Dowd (2015a) provides a detailed 2 overview of telecollaborative teacher competences and this includes organizational, pedagogical and digital competences as well as a set of attitudes. Despite this previous work in the area, there is still relatively little research on what pedagogical mentoring in VE should look like and what specific guidelines and strategies teachers should provide their students.

With this in mind, through action research, this study offers a qualitative analysis of conversational and reflective data taken from 3 virtual exchange projects to explore what pedagogical mentoring in a VE should encompass for both synchronous and asynchronous interaction. This study also responds to numerous calls for future research related to the need to create materials based on authentic examples drawn from VEs to engage learners in identifying (in)effective communicative strategies (O'Dowd, 2013).

In this article we begin by reviewing the reasons identified in the literature that lead us to suggest the implementation of pedagogical mentoring as well as the ways in which it has been carried out in the context of Virtual Exchanges, and then answer the research questions by: (1) Identifying how VE teachers can use pedagogical mentoring to enhance their students' online communication and collaboration and (2) exploring what specific

mentoring patterns can be effective in light of the communicative modalities in which students engage, i.e., synchronous and asynchronous.

LITERATURE REVIEW

Digital Natives and Learning to Interact Online

The concept that learners at school or university level may need support in learning how to interact online successfully may at first seem quite counterintuitive. A generation of 3 learners that have been born in the time of the internet and that engage constantly in social networks might well be expected to be comfortable with interacting and collaborating in the forums, videoconferences and text-based networking applications which are used in VE. This assumption can be related to the term "digital natives" which Prensky (2001) used to describe the generation born in the information age who consume digital information and inform and entertain themselves through digital devices and platforms. However, while contemporary students may have been born in a digital age, there is now widespread evidence in the literature to question the assumption that digital natives bring to their classes the necessary formal academic digital skills such as information retrieval, formal online communication or content evaluation (Kirschner & van Merrienboer, 2013; Margaryan, Littlejohn & Vojt, 2011). Indeed, Prensky has in recent years clarified that the term did not refer to inherent digital competence but rather to attitudinal differences and cultures of learning (Prensky, 2015).

The research studies in this area would suggest that while students are common consumers of online content, this does not mean that they are intuitively capable of using digital technologies in creative or collaborative ways in their learning. Valtonen et al. (2011), for example, looked at the academic practices of student teachers in Finland and found that "the technological knowledge of student teachers is not what would be expected for representatives of the Net Generation" (p. 13). They found that students used a very limited range of applications in their teaching practices and that when they used social media, it was as a passive source of information transmission and not as a tool for actively creating content, interacting with others, or sharing resources (Valtonen et al., 2011). Similarly, Livingstone, et al. (2011), in their large scale study on the digital practices of European pre-university students, found that only one in five participants in their study used online technologies for 4 anything but consuming "ready-made, mass produced content" (p. 42). Finally, Kennedy and Fox (2013), in their study of Hong Kong University undergraduates, found that students used online technologies mainly for personal purposes and self-entertainment, but were rarely aware of how to use technology in academic contexts.

A recent review of the literature in this area by Judd (2018) suggests that there is now a general consensus that students' have diverse levels of technological proficiency and that it should not be assumed that students born in the age of the internet somehow learn differently to previous generations. The conclusion which we draw from these studies is that if students are not sufficiently skilled in digital academic practices, then they need explicit support and training in developing these skills. This becomes particularly

important in the case of VE, where students are not only expected to create digital content and interact and collaborate in online tools, but this also has to be done in an intercultural context where digital skills must be combined with linguistic and intercultural skills and attitudes. This leads to the question of how teachers can develop these skills in their students.

Pedagogical Mentoring in Virtual Exchange

Crucial to this present study is the concept of pedagogical mentoring, the guidance by a teacher or facilitator during a virtual exchange to support student engagement, collaboration and learning. Extensive discussion and research on VE has pointed to the necessity of mentoring to guide students in engaging in conversations and interactions outside their comfort zones (Dooly, 2011), to support intercultural student learning outcomes while avoiding superficial engagement (Kramsch, 2014) or at worst the furthering of stereotypical beliefs about partner cultures. Mentoring has also been used to support the learning of other skills, in particular linguistic and pragmatic knowledge (e.g. Belz & Vyatkina, 2008), which 5 arise when the VE is carried out in a language that students are learning. More broadly, pedagogical mentoring during VEs that employe blended learning formats has also been found to support learning presence, or "students' ability to exercise their agency and educational influence to maximize their individual and collective learning" (Kurek & Müller-Hartmann, 2019, p. 56).

Accordingly, different facets of a VE can therefore mediate the type of mentoring that teachers and facilitators can engage in and which may best support student learning. This includes not only the aforementioned learning goals of the VE but also the modalities of communication used in the VE and available to students and teachers or facilitators. Broadly speaking, these modalities encompass synchronous communication, which occurs in real time either orally or in writing and includes videoconferences or instant messaging chat conversations, and asynchronous communication, which occurs on a time-deferred basis either orally or in writing and includes discussion forums or email conversations.

O'Dowd et al. (2020) provide an exploration of three different categories of pedagogical mentoring and the format they take depending on the nature and modality of the VE: (1) pre-mentoring that takes place before the online interaction of the VE begins, (2) mentoring during the online interaction, usually in a real-time synchronous format, and (3) reflective-mentoring that occurs after episodes or instances of online interactions. An example of pre-mentoring is further explored in O'Dowd et al. (2020) who built upon the work of Ware (2013) and proactively introduced to their students models and examples of successful online interaction strategies found in previous VEs. While their VE employed both synchronous and asynchronous communication tools (i.e. Moodle discussion forum, Google Docs, and WhatsApp) the pre-mentoring took place during the in-person meetings of each 6 class and incorporated powerpoint slides with discourse excerpts illustrating specific interactional strategies as well as scenarios of communication breakdown to elicit discussion about possible strategies students could use.

Mentoring during the online interaction itself usually but not necessarily assumes a synchronous model of interaction in the VE, typically one that involves

videoconferences. This type of mentoring fits well within facilitator-led models of VE such as those operated by Soliya and Sharing Perspectives Foundation and in the Online Facilitated Dialog (OFD) model of VEs employed by the Erasmus+ Virtual Exchange (EVE) project (Helm & van der Velden, 2021). In these models of VEs, independent facilitators (not course instructors), who are trained in dialogic facilitation and active listening, facilitate and guide discussion and engagement during synchronous interactions. This type of mentoring offers participants within-the-moment support and guidance which can be of particular benefit in deepening understanding of other cultures and perspectives around pivotal sociopolitical issues and tensions (Helm, 2016).

The third type of mentoring, that of retrospective reflection upon interaction during the VE, has been used extensively in VEs that were developed to support language learning, intercultural competence and even teacher training. This type of mentoring can incorporate reflection on both synchronous (e.g. recordings from videoconferencinges) and asynchronous (e.g. discussion forum posts) interaction examples from the VE. These reflections can take place in a variety of formats including in-class discussion, independent learning activities (e.g. worksheets) or through individual dialog with the instructor. Reflection on recorded videoconferences is illustrated in Kern's (2014) study of US learners of French who took part in a VE and engaged in la salle de rétrospection, in which they were asked to respond to 7 reflection questions while viewing recordings of their videoconference interactions. The work of Belz and Vyatkina (2008) who studied learners of German in an asynchronous VE is an example of teacher guided reflection that uses asynchronous written interaction. The teachers compiled examples of discourse excerpts produced by their students and their native German speaking partners during the initial weeks of the VE to create pedagogical activities and worksheets to draw their students' attention to the use of certain German pragmatic features to improve their use of those features in later stages of the VE. As a final example, Cavalari and Aranha's (2019) VE with English language teacher candidates in Brazil incorporated retrospective reflection in the form of reflexive diaries students wrote in Google Docs and shared with their instructor each week. In addition to eliciting feedback from the instructor, these reflexive diaries also served as a point of discussion during weekly mediation sessions during class.

Altogether, research on pedagogical mentoring during a VE points to various options that can be used to support engagement, learning and critical reflection in a variety of interactional modalities. The strategies identified in this present study stem from the analysis of both synchronous and asynchronous interaction include videoconferences, discussion forums, references to Whatsapp groups and emails, and students' reflections on these interactions.

METHOD

Aim and Research Questions

This article reports on a study aimed at identifying pedagogical strategies for supporting students' synchronous and asynchronous communication in VE. The research questions are as follows:

Q₁: How can VE teachers use mentoring to improve their students' online communication and collaboration?

Q₂: What are effective mentoring guidelines teachers can provide learners to communicate and collaborate synchronously and asynchronously in online intercultural settings?

This qualitative study is based on an action research design, connecting practice and theory with the purpose of developing and improving educational practice through a cycle of planning, action, observation, and reflection (Norton, 2009). The aim was to understand VE participants' experiences through emic data from self-reporting e-portfolios and conversational materials for the purpose of developing mentoring materials intended to prepare and support future students with communicative VE strategies.

Context and Participants

The study is based on a corpus of three VEs involving six universities in four countries. A total of 167 students participated. All three projects were carried out as an integrated part of university programs at each respective institution. Two bilingual VEs, aimed at fostering language development and intercultural competence, involved undergraduate students from Spain (n=47) and Ireland (n=73). The third VE, carried out in English as a lingua franca, involved pre-service language teachers at an MA level from the USA (n=17), Spain (n=20) and Sweden (n=10). The majority of the students were in the age group 20-30 (with a few exceptions of older participants in their 40s and 50s), and their English language proficiency spanned B2 to C2 levels on the CEFR scale.

The latest data regarding student mobility for the contexts represented was an average of 7% for students from the European Union, and according to the 2019/2020 data from Open Doors 9% for undergraduates from the USA. As practitioner researchers, the authors take twofold positions as both VE teachers and researchers in the present study (Müller-Hartmann, 2016). Through practice, we have become increasingly aware of students' need for explicit mentoring on communicative strategies in VE; thus, the development of pedagogical mentoring materials. Each of us participated as a collaborating teacher in at least one of the three VEs under study, and simultaneously engaged in the exploratory action research process of gathering data (Norton, 2009).

Tasks and Tools

Although content differed, the three VEs spanned 10 weeks and followed a three-stage task sequence (O'Dowd & Ware, 2009). The first stage connected participants in international teams and enabled them to establish relationships with their partners. Following that, in the second stage, students collaboratively explored and compared a theme in their respective countries. Finally, students co-created materials in response to a main task. Participants communicated (a)synchronously with their international partners through the projects.

The VEs involved a range of communicative tools. The use of digital tools in VE typically fulfills different purposes: (a) a virtual learning environment (e.g., Moodle) providing a contact zone for information and discussion forums; (b) chat forums chosen by each international team (e.g., WhatsApp); (c) tools for videoconferences (e.g., Zoom); (d) team workspaces (e.g., Google docs) and (e) tools for co-creation (e.g., Padlet).

Data

The data collection phase took place during the 10 weeks of running the VEs, from October to December 2020. The study draws on conversational and self-reported data from synchronous, asynchronous, and reflexive VE activities (Table 1). Conversational data derived from asynchronous communication consists of students' interactions on discussion forums in the virtual learning environments. In addition, students participated in generating data for synchronous communication by recording videoconferences conducted in their international teams.

We obtained self-reported data from student e-portfolios and oral testimonies in pre and post-interviews. Providing a tool for reflection, the e-portfolio was designed as a template with questions prompting students to share experiences and examples in response to the different VE stages. Moreover, semi-structured interviews generated conversational reflection on (a)synchronous experiences (Saldaña, 2021). The interviews were conducted with students individually and we recorded and transcribed in full.

Table 1: Data Overview

Students' Conversational Data	Students Self-reported Data
Written asynchronous interaction from discussion forums in the VE learning environments.	Reflective e-portfolios.
Videoconferences in international teams (recorded and transcribed).	Testimonies from pre- and post-interviews (recorded and transcribed)

Analysis

Qualitative content analysis was used to code and triangulate the data (Zhang & Wildemuth, 2009). A careful immersion and familiarization process entailed close reading, identifying recurring themes, and examining patterns across transcripts. First, two researchers coded the data individually; subsequently, we compared, re-evaluated, and corroborated codes and analyses in the research team. NVivo provided a tool for establishing a coding schema.

Table 2: Coding Schema

Main Categories	*Synchronous Communication*	*Asynchronous Communication*	*Both*
1. Before interaction	Organizational skills		How to use technology effectively Netiquette Becoming aware of initial common concerns
2. During interaction	Online spoken skills Unproductive strategies Turn taking Cooperating (e.g., social inclusion) Asking for clarification Personal correspondence (e.g., WhatsApp)	Online written skills Unproductive strategies Composing posts Commenting posts Reacting to embedded media Including symbols to convey meaning 12 Personal correspondence (e.g., email)	Facing technical problems Negotiation of meaning Mediation (linguistic and conceptual) Adaptability (linguistic and telecollaborative) Plurilingual competence Pluricultural competence
3. After interaction			Recognizing tools aren't neutral Presenting oneself online Getting to know others online Skills development

Ethics

Data were collected and analyzed in compliance with local rules and ethics for working with human subjects set forth by the institutions of the participants and the researchers. This included receiving approval from an IRB for the partner institution in the USA and compliance with the GDPR regarding data storage for participants and researchers from EU institutions.

RESULTS

Research question 1: How can VE teachers use mentoring to improve their students' online communication and collaboration?

The data analysis in this study has allowed for the identification of a number of strategies VE teachers can take and adapt to their own contexts and needs to implement their

pedagogical mentoring in the classroom. Data included VE participants' conversational data derived from (a)synchronous communication including interactions on discussion forums in the virtual learning environments and recording of the videoconferences conducted in their international teams which were triangulated with self-reported data from student e-portfolios and oral testimonies in pre- and post-interviews. The strategies identified from the analysis of this data set were also used for structuring and developing a detailed <u>Mentoring Handbook for VE teachers</u> (Gutiérrez et al., 2021) where reflective questions for instructors, related examples taken from real scenarios, and consequent mentoring guidelines are proposed.

First, and aligning with what other authors and VE practitioners (Ware, 2013; Muller-Hartmann & O'Dowd, 2017) had previously proposed, in order to prepare students for their interaction and collaboration with their international partners, students were presented with both successful and failed real communicative scenarios taken from previous exchanges. An example of this are the presentations designed to be used in class as part of the Mentoring Handbook for VE teachers (Gutiérrez et al., 2021) where real examples are proposed as prompts for discussion to engage students in the process of proactively uncovering effective and ineffective communication strategies, Figure 1 below illustrates this.
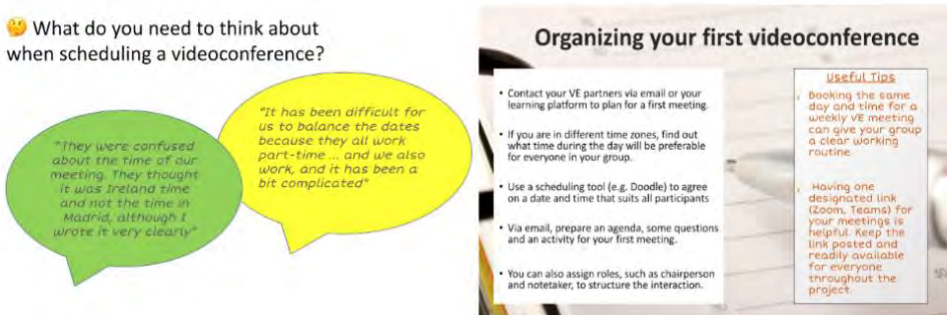

Figure 1: Mentoring Example A

Moving forward, during the interaction period, integrating and guiding discussions around the issues that arise from the intercultural interactions in the classroom (Furstenburg 2010; O'Dowd, 2013) offered participants the opportunity to share and discuss together with the group their experiences in their transnational working groups (Nissen, 2016). Figure 2 below provides an example of how this was carried out in the classroom to illustrate the VE experience. The integration of students' own experiences and reflections in group teacher-led in-class discussions proved to be fruitful in terms of linguistic and intercultural learning as previously acknowledged in the literature by educators like Ware and Kramsch (2005) or Belz and Muller-Hartmann (2003) who call on the potential of the in-class discussion of rich points (Agar, 1994) as well as communicative breakdowns (O'Dowd & Eberbach, 2004) to encourage this type of

learning. This practice prevented students from forming misconceptions or even stereotypes about international partners, which may occur if they do not receive support or training in this regard (Belz, 2003; Guth, Helm and O'Dowd, 2012).

Figure 2: Mentoring Example B

At the same time, an overall finding that emerged from the exploration of this question is that three key phases of action for mentoring in a VE were identified that are common to both communicative modalities (i.e. synchronous and asynchronous). First, our research in line with Ware (2013) has indicated that, before the interaction starts, VE teachers can help their students to prepare for successful online intercultural interaction by dealing with effective technology use, organizational skills, and awareness of common concerns. However, as previous studies have warned (Dooly, 2017; O'Dowd et al., 2020) the effect of this previous training may be rather sensitizing or conscientizing about the experience that awaits them since online intercultural communication cannot be taught in advance per se. Thus, a number of questions that VE teachers may ask themselves to guide their intervention as they get students ready for the interaction have been identified (Please note that the strategies related to this section's questions will be presented in the results for research question 2):

- Do my students know how to use the (a)synchronous communication tools they will be engaged with?
- Are my students aware of aspects of communication such as the basic rules of netiquette or non-verbal language? 16
- Do my students have the necessary skills to successfully organize and develop their first synchronous interaction together?
- Are my students aware of common concerns before a first (a)synchronous online intercultural interaction?

Second, during the interaction period, VE teachers can provide support to their students using the above-mentioned techniques to deal with issues such as key (in)appropriate and (in)effective communicative strategies to successfully participate in (a)synchronous online intercultural interaction, communicative difficulties, technical difficulties, conflict or personal correspondence. Here is again a list of questions teachers may ask themselves once (a)synchronous interactions among international students have begun:

- Are my students ready to face technical difficulties?
- Are my students aware of effective and appropriate communicative strategies for (a)synchronous online intercultural interactions?
- Are my students aware of unproductive communicative strategies that they should avoid in (a)synchronous online intercultural interactions?
- Do my students know the potential of using (a)synchronous personal correspondence during a VE?

Third, once the VE comes to an end and interactions cease, pedagogical mentoring can be implemented with the aim to provide students with a reflection stage in the classroom. This can be done through teacher-led group discussions analyzing the learning experience as well as using reflective tools such as portfolios where students can express their views and opinions to which the teacher can provide feedback (Lewis & O'Dowd, 2016; Godwin-Jones, 2019). According to students' reflections, this final period of critical reflection proved to be helpful for them to look back on the experience with some perspective and reach their own 17 conclusions in terms of learning outcomes and skills development. At the same time, VE teachers may also consider proposing topics for reflection such as the impact that different (a)synchronous communication tools have on online intercultural communication or relationships.

While these three mentoring stages have been found to be applicable to both communicative modalities, there are particularities to be taken into account in each of them as will be explored in the results for research question 2. For instance, before the interaction begins, learners may benefit from acquiring certain organizational skills in the specific case of synchronous communication in order to be able to successfully arrange and develop the first synchronous interaction together (e.g. finding a date and a time, preparing an agenda or moving the conversation forward) while this is something that does not necessarily apply to asynchronous communication.

Research question 2: What are effective mentoring guidelines teachers can provide learners to communicate and collaborate synchronously and asynchronously in online intercultural settings?

While the previous research question focused on techniques and moments for the implementation of mentoring by VE teachers, this second question explores the nuances of mentoring according to the communicative context. The specific communicative strategies identified in this study are detailed one by one in the Mentoring Handbook for VE teachers (Gutiérrez et al., 2021), but more general conclusions that point to the need to provide

students with different specific strategies for successful (i.e. effective and appropriate) communication in (a)synchronous contexts can also be drawn and are presented below. Our 18 findings indicate that even in cases in which the strategies can be grouped under the same category, the approach that each communicative context requires usually differs.

Before the Interaction Period

While the need for training in terms of effective technology use and familiarization with the project communicative tools before the interaction has been acknowledged in the literature (Lee & Markey, 2014; Çiftçi, 2016), students' digital skills tend to be assumed and thus training in this regard tends to be overlooked. However, providing students with some key insights on technology use may be very beneficial for them to "be in control of technology and not slaves to it" (Dooly, 2008,p.23). In the case of synchronous communication, students reported to benefit from finding out beforehand, for instance, how to share their screen or how to record their meeting since this helped them feel more confident and contributed to the interaction flowing more smoothly. In contrast, asynchronous tools provide the interlocutors with enough time to explore them without this interfering with the interaction. But still, it may be convenient to spend some time getting to know them. Another possibility to deal with this issue is to encourage students to explore the tools by themselves and come back with questions for a more autonomous way of learning (see Student Example A).

> "I learned that before making a video call it is very important to check everything works properly and to always have a plan B or another backup idea" (Student Example A).

At the same time, in order to make an effective use of technology, it is important that students receive some basic training in terms of netiquette for both communicative modalities. It is clear that this is a very extensive area that cannot be covered in detail being realistic and taking into account the time constraints faced by teachers when implementing a VE but providing students with a number of basic guidelines proved to be very beneficial for their interactions. Teachers may opt for providing students with a list of good practices in this regard.

Some of the first challenges faced by VE participants are specifically related to synchronous communication. In their study, Marull and Kumar (2020) found that finding suitable dates and times for their interaction was the most cited drawback according to learners, along with foreign language (FL) anxiety when engaging in interaction with native speakers in the target language. After the scheduling challenge, students encounter that of moving the meeting forward, that is, getting the conversation flowing and tasks completed during the meeting. This can be especially demanding if during the first videoconference everything is left to improvisation. To address this, VE teachers can offer mentoring in terms of organizational skills by showing students how to schedule their first meeting, how to prepare their first agenda or the different roles they can agree to take. In our study it was observed how providing students with this kind of pre-meeting organization strategies helped them to feel more confident according to their reflections

and testimonies (see Student Example B).

> "I learned how to create an agenda for a meeting, how to talk during an online meeting and to be flexible in terms of timing and dates, so that we can meet and complete the task together" (Student Example B).

At the same time, in order to address the above-mentioned worry students feel about communicating in the FL, mentoring can also be provided in order to deal with students' initial common concerns. Other concerns identified in this study and worth dealing with also include speaking to strangers, being judged on their proficiency in the FL or worrying that the technology will fail which, although common, are not usually discussed in the classrooms. Openly addressing these initial common concerns can entail, for instance, discussions in which students propose what could make them feel more comfortable with their partners in their transnational groups (see Student Example C).

> "I was able to learn that many people are afraid to speak a language other than their mother tongue and that I didn't need to be stressed" (Student Example C).

Although to a lesser extent, in asynchronous interaction some people may also feel insecure about communicating in a FL. In this sense, students reported that taking the time that this mode of communication offers them to prepare interventions ahead of time helped them feel less pressure and contribute outcomes that they were satisfied with.

During the Interaction Period

One of the first challenges observed once interactions begin are technical difficulties even when students know how to use technology (Çiftçi, 2016). Those that occur during synchronous communication tend to be more unexpected or dependent on a good connection or equipment while those related to asynchronous communication may be somewhat more predictable and avoidable. In this study analysis identified that talking in class about the technical difficulties that arise during interaction in the transnational groups and sharing strategies for dealing with them proved to be very useful for those students who had already found themselves in the situation and for those who may find themselves in the same situation in the future and would therefore be prepared with strategies they could call upon. they can count on strategies to face them.

When it comes to communicative strategies, what were identified (and also later described in more depth in the Mentoring Handbook for VE teachers) included strategies that were common for both Synchronous Computer-Mediated Communication (SCMC) and Asynchronous Computer-Mediated Communication (ACMC) as well as specific strategies that were unique to each modality. Based on the scenarios analyzed in this study, aspects of SCMC for which students would particularly benefit from guidance include turn taking, cooperation and inclusion, negotiation of meaning and non-verbal communication strategies. Examples of this include guiding students on (1) how to agree on turn taking and chat use strategies; (2) how to assess the group dynamics; (3) how to be inclusive; (4)

how to ask for clarification, repetition or information about unfamiliar concepts; and (5) how to rephrase to facilitate understanding or how to analyze the connotations of nonverbal language and its close connection with culture (see Student Example D for an instance of strategies 2 and 3).

> "I realised that not everyone has the same ease in talking to strangers or in public and tried to figure out what's the best way to put the other person at ease" (Student Example D).

In contrast, the analysis of students' ACMC interactions and reflections reveals the need to deal with aspects such as how to appropriately and effectively compose posts, comment on others' posts or use symbols to convey meaning. An example of this would be guiding students on critically reflecting on how non-linguistic features of language and multimodal resources such as emojis, memes and images can both enrich and hinder communication, meaning-making and interactions. Students reported that openly talking about the use and meaning they give to a symbol when it came up in a conversation with their international partners generated interesting conversations with rich cultural learning (see Student Example E).

> "I think that is important to acknowledge the meaning we give to things like emojis and memes in order to avoid misunderstandings and a great way to realise that we all share worries and interests, and especially meme culture" (Student Example E).

At the same time, in both communicative settings, students benefited from preparation in terms of mediation skills as well as plurilingual and pluricultural competences (Common European Framework of Reference Companion Volume, 2020) in order to facilitate understanding and successful communication. Examples of this include the implementation of strategies such as proactively explaining the meaning of expressions or concepts that may be unfamiliar to the other, displaying attitudes of openness and flexibility to work with different elements of different languages, or recognising and interpreting from a critical and neutral perspective cultural issues and acting accordingly and appropriately (see student Example F). This part of the training is especially relevant to avoid the formation or reinforcement of cultural stereotypes (Guth et al., 2012).

> "-Avoid eating with your eyes. I'm not sure if this is said in your country but here it is said when they think they can eat much more than they actually can.
> -In our country there is that expression but we use it more in the sense that you like something you see visually, it comes in through your eyes, it is appetizing" (Student Example F).

So far, references have been made to students' interactions as an integrated part of their VE. But students also benefit from having a personal communication channel for organizational as well as social purposes (see Student Example G).

"We usually talk in our WhatsApp group and now we even talk about things that are not related to the tasks of the project just as normal friends and I love it" (Student Example G).

Students reported engaging in SCMC through instant messaging apps as a more informal context in which to communicate using a more everyday language and share multimedia sources which in turn contributed to a further development of their interpersonal relationships. Students also signaled that while asynchronous communication tools proved to be suitable for a first contact, they may not be the best option for students to keep in touch throughout the whole VE. When agreeing on a personal communication channel as a group students can be taught what cultures-of-use (Thorne, 2003) are so that they can pay attention to and explicitly discuss with their colleagues how their cultures approach and use the tools that mediate their communication.

After the Interaction Period

Finally, topics for critical reflection that were identified as fruitful in this study to foster students' critical thinking include the impact that different (a)synchronous communication tools have on online intercultural communication, the development of online intercultural social relationships and learning outcomes. For example, the first topic enabled students to recognize that tools are not neutral and helped them to become aware of the impact that the mediation of technology had on the way they behaved when communicating with others (see Student Example H).

"I felt more cautious about what I said during videoconferences compared to the forums where I could revise what I said a lot" (Student Example H).

They mentioned examples such as having to make an extra effort to be communicative through the screen by being more attentive to facial expressions and gestures or in the case of asynchronous communication using more emphatic words, symbols or punctuation marks. When invited to reflect on how the different modes of communication affected their perceptions of each other, students reported that their first videoconference had a very positive impact on their feeling of 'really getting to know each other' (see Student Example I). A common conclusion arising from students' reports about this is that asynchronous communication constituted a 'less threatening' scenario for the first contact before having a live conversation.

"In the videoconferences it is easier to make mistakes but you also feel like you know your partners better seeing them live through video" (Student Example I).

Finally, participation in a VE can lead to the development of a wide range of skills, although these learning outcomes can vary considerably from person to person. It is therefore useful to guide learners towards personal reflection so that each individual can come to their own conclusions as to what skills they have developed or acquired during the experience. For example, some students remarked that participating in videoconferences helped them become familiar with the technical aspects of handling videoconferencing

tools and contributed to the improvement of their digital skills while others highlighted that participating in discussion forums helped them to get more involved in the interaction and therefore contributed to the development of their communicative skills.

DISCUSSION

This study has identified mentoring recommendations based on the analysis of previous VE projects so that other VE teachers aiming to offer support and guidance to their students in terms of (a)synchronous online intercultural communication and collaboration can adapt them to their particular contexts and needs. It follows that our intention is not for the mentoring recommendations presented in this article and in its practical outcome (i.e. the Mentoring Handbook for VE teachers) to be perceived as a closed, complete, or static text. Rather, we hope that the pedagogical materials we have produced will provide a helpful starting point for teachers and students to draw from the examples and guidelines we offer in order to develop their own unique VE experiences. Looking beyond the findings of this study, what remains to be explored is the relevance and effectiveness of the pedagogical mentoring recommendations in various other contexts and among different learner populations (e.g. undergraduates, students who are not teacher candidates, etc.) It would also be of interest to compare the implementation of this type of detailed, multi-stage mentoring with control groups, non-mentored or traditionally mentored projects to observe the different outcomes.

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