

# Recorded video meetings in virtual exchange: a new frontier for pre-service teacher reflection

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## Abstract

This study examined a virtual exchange in which English as a Foreign Language (EFL) teacher candidates from Colombia were partnered with Spanish as a Foreign Language (SFL) teacher candidates from the United States. The eight ( $n=8$ ) participants interacted via videoconference for six weeks. Additionally, they watched recordings of their video meetings in order to reflect on their experiences and what they noticed about their interactions (Schmidt, 1990). Results from qualitative data showed participants' awareness of their professional identity and professional development. Additionally, incorporating a reflective component, based on watching recorded synchronous sessions, into virtual exchange is shown to be a valuable tool for making connections between theory and practice.

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**Keywords:** synchronous computer-mediated communication; virtual exchange; videoconferencing; teacher reflection; professional development; learner autonomy; higher education.

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## 1. Introduction

The ways in which reflection can occur have been influenced by the proliferation of technology. While reflection has been part of teaching for almost a century (Dewey, 1933) and teacher reflection has long included watching video recordings of classes (Richardson, 1990; Saunders, Goldenberg,

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& Hamann, 1992), digital technologies, such as real-time interaction through videoconferencing, a form of Synchronous Computer-Mediated Communication (SCMC) (Healey, 2016; Lenkaitis, 2020b), can now afford speakers the opportunity to record their interactions. In this way, technology allows interlocutors to have a record of their interactions that can be reviewed after the fact.

In three recent virtual exchanges<sup>2</sup> via videoconference (Lenkaitis, 2019, 2020a, *in press*), pre-service teachers<sup>3</sup> were partnered with second language (L2) learners from other countries or cultures. Through subsequent reflection on their recorded video meetings, these teacher candidates were able to reflect upon teaching practices prior to their practicum or student teaching experiences and L2 learners on their learning processes. Considering the reflective process in Lenkaitis (2019, 2020a, *in press*) and because teacher candidates have also been partnered with other teacher candidates in virtual exchanges (see Dooly & Sadler, 2013, The EVALUATE Group, 2019), this article discusses a virtual exchange that paired EFL teacher candidates from Colombia with SFL teacher candidates from the United States. Furthermore, it focuses on how these participants reflected on their experiences after watching their recorded video meetings. In order to examine the ways in which pre-service teachers developed their pedagogies and formed their professional identities through reflection on their recorded interactions, this study answers the following research question: in what ways does reflecting on recordings of synchronous video meetings between teacher candidates participating in a virtual exchange support their professional development prior to their practicum or student teaching experience? Following a review of literature and explanation of the methods, this paper will show that participants make connections between theory and practice, form professional identities, and develop their pedagogies as a result of reflecting on their recorded virtual exchange interactions.

## 2. Literature review

### 2.1. Virtual exchange in pre-service teacher education

Many examples in which teacher candidates of different countries have been partnered through virtual exchange both synchronously (real-time) and asynchronously (non-real-time) are discussed in the literature (see Dooly & Sadler, 2013; Fuchs, Hauck, & Müller-Hartmann, 2012; The EVALUATE Group, 2019; and Zhang, Li, Liu, & Miao, 2016). The main aims of teacher candidate virtual exchange have been to aid participants to (1) develop pedagogies for using technologies to support their teaching (Dooly & Sadler, 2013; The EVALUATE Group, 2019), (2) develop strategies to design tasks

2. According to O'Dowd (2018), the term virtual exchange is becoming widely used when describing an exchange that partners those from different cultural contexts and geographic locations. Terms under the virtual exchange umbrella can include telecollaboration, online intercultural exchanges, and teletandem.

3. Pre-service teachers and teacher candidates are used interchangeably throughout the article.

appropriate to the pedagogy (Fuchs et al., 2012; The EVALUATE Group, 2019), and (3) develop reflective practices regarding technology (The EVALUATE Group, 2019; Zhang et al., 2016). Apart from the virtual exchanges that have centered around educational technology, Chen's (2012) study focused on teacher candidates completing professional interview and lesson planning tasks, which gave teacher candidates the opportunity to learn, practice, and reflect.

In the most recent and largest study of teacher candidates in virtual exchanges, over 1,000 teacher candidates from over 30 countries formed partnerships across 25 virtual exchange projects (The EVALUATE Group, 2019). In all of these projects, participants completed tasks that included developing curriculum and educational materials. In addition to improvement in teacher candidates' digital-pedagogical competences, both quantitative and qualitative analyses revealed that the majority of teacher candidates whose teacher education course included a foreign language learning component improved in language and intercultural competences.

To date, studies have shown that incorporating virtual exchange in teacher preparation programs can be beneficial for the professional development of teacher candidates (see Dooly & Sadler, 2013; Fuchs et al., 2012; The EVALUATE Group, 2019). However, to the author's best knowledge, there have been very few virtual exchange studies that have focused on reflecting on recordings of synchronous video meetings (Guichon, 2009; Lenkaitis, 2019, 2020a, *in press*), each of which have partnered teacher candidates with L2 learners (Lenkaitis, 2019, 2020a, *in press*). Therefore, additional research needs to be done in order to explore the affordances and challenges that teacher candidate to teacher candidate virtual exchange and subsequent reflection on recorded interactions can have on professional development and bridging theory and practice (Turunen & Tuovila, 2012; Yuan, 2018).

## 2.2. Teacher reflection and professional development

Tripp and Rich (2012b) defined "reflection as a self-critical, investigative process wherein teachers consider the effect of their pedagogical decisions on their situated practice with the aim of improving those practices" (p. 678). Expecting teachers to reflect on their pedagogy is considered to be a critical part of professional development (Tripp & Rich, 2012b), and a process that can take place through interaction with others (Rodgers, 2002). Therefore, for this study, professional development will be defined as pre-service teachers' self-perceived growth of their pedagogical practices.

Being able to reflect on pedagogical practices is especially important for teacher candidates because it helps them make connections between educational theory and pedagogical practice (Atkinson, 2012; Ibrahim-Didi, 2015). Not only does teacher reflection help teacher candidates to develop teacher

effectiveness and independence, improve lesson planning, and decrease anxiety, but it also allows them to recognize their pedagogical knowledge and help form a professional identity as a teacher (Maaranen & Stenberg, 2017; Maclean & White, 2007; Manning & Payne, 1993; Noormohammadi, 2014; Powell, 2005).

Teacher candidates consider their practicum or student teaching as the most important part of their professional development (Baecher, 2012; Clarke, Triggs, & Nielson, 2014). However, according to Nelson, Miller, and Yun (2016), experiences that allow teacher candidates to develop their practice and reflect on it should take place before the student teaching experience (Nelson et al., 2016). By participating in reflective practices from the beginning of the teacher preparation coursework, teacher candidates are able to develop a habit of reflective thinking. This can provide opportunities to bridge theory into practice (Bullough, 1997; Tom, 1997), or in other words make connections to coursework in a practical setting.

In addition, teacher reflection helps teacher candidates develop their confidence and increase their enthusiasm for the profession (Maclean & White, 2007). Maaranen and Stenberg (2017) connect the practice of reflection with what they refer to as personal practical theories. These personal practical theories combine teachers' own experiences with different classroom situations, potential dilemmas, and moral aspects of teaching, such as different attitudes or beliefs toward the profession (Carter, 1990; Connelly & Clandinin, 1988; Connelly, Clandinin, & He, 1997; Johnston, 1994) with their own teaching experiences, both past and present. According to Maaranen and Stenberg (2017), through reflection, teacher candidates transition their more idealistic personal practical theories and ideas about teaching to more concrete and practical matters, such as the classroom environment and students' behavior. Because of these demonstrated benefits, reflection has become one of the most important aspects of teacher education and a priority of many teacher preparation programs (Beauchamp, 2015; Zeichner & Liston, 1987).

Reflecting on experiences in teacher preparation programs can also provide opportunities to develop new perspectives (Hickson, 2011). This reflection can lead to finding innovative ideas to overcome classroom challenges (Friedman, 1999; Rudolph, 2006) and becoming more motivated (MacArthur et al., 1995; Meskill et al., 2006; Vannatta, Beyerbach, & Walsh, 2001). This reflection can lead to professional behavior that supports growth, professional development, and internally directed learning (Korthagen et al., 2001; Korthagen & Vasalos, 2005).

Video recordings of one's teaching have also been used for self-development and reflection (Guichon, 2009; Tripp & Rich, 2012a; Walshe & Driver, 2019). In their review of 63 studies that utilized video recordings of participants' teaching, Tripp and Rich (2012a) found that utilizing video was helpful for

teacher reflection. However, the reflective process varied across studies and included participants reflecting individually and/or collaboratively, completing written reflections, and editing video. Additionally, in virtual exchange studies, reflection has taken place in the form of blogs (Nogueira de Moraes Garcia, O'Connor, & Cappellini, 2017), journals (Ullom, 2017), and task sequencing (Fuchs et al., 2012), all of which were beneficial for developing pre-service teachers' learner autonomy (Little, 1991, 2004). No matter what the reflective practice is, reflection must allow "students [to] self-evaluate... and reflect on what and how they learn" (Carr, 2002, p. 195).

### 3. Research question

Although there are many examples of virtual exchanges for pre-service teachers (Chen, 2012; Dooly & Sadler, 2013; Fuchs et al., 2012; The EVALUATE Group, 2019; Zhang et al., 2016), little research exists regarding the reflective practices that these virtual exchanges provide to the teacher candidate participants through the watching of recorded video meetings (Guichon, 2009; Lenkaitis, 2019, 2020a, *in press*). This study will answer the following research question: In what ways does reflecting on recordings of synchronous video meetings between teacher candidates participating in a virtual exchange support their professional development prior to their practicum or student teaching experience?

### 4. Methods

The study investigated a virtual exchange among pre-service teachers via videoconference through the lens of reflection to explore the ways in which such an experience can support their professional development prior to their student teaching experiences. Qualitative data included weekly written reflections and final written reflections, which were coded and quantified as explained in the following sections.

#### 4.1. Participants

Eight teacher candidates ( $n=8$ ) participated in this study. Three SFL teacher candidates from the United States were partnered with five EFL teacher candidates from Colombia in a six week virtual exchange. Two of the three SFL teacher candidates' first language (L1) was Spanish and L2 was English while the other SFL teacher candidate's L1 was English and L2 was Spanish. All EFL teacher candidates' L1 was Spanish and L2 was English. The average age of all participants was 34.9 ( $SD=10.0$ ). The ages of participants ranged from 23 to 54 while the median age was 33.

During the six week virtual exchange, which was a required part of all participants' coursework, the main objective was for all teacher candidates from Colombia to meet synchronously with those from the United States and communicate using English as the lingua franca<sup>4</sup> to discuss their teaching strategies with one another. At the time of the study, the teacher candidates from Colombia were taking an English Methods course for their teacher preparation program while the teacher candidates from the United States were registered for the Spanish Methods course for their teacher preparation program. The virtual exchange was a required part of coursework. Therefore, most groups were two or three person teams since there was at least one SFL and EFL teacher candidate per group.

## 4.2. Weekly procedures

Participants synchronously met weekly via Zoom videoconferencing (<https://zoom.us/>) and were instructed to record their sessions. Participants were instructed to meet with their partner(s) at least 15 minutes each week to discuss pedagogical topics that coincided with their methods coursework. In order to be prepared to discuss these themes, participants were instructed to read a chapter relating to the weekly topic. After the initial week's introductions (Week 1), Weeks 2 to 5 focused on each of the four L2 skills (Week 2 – listening, Week 3 – speaking, Week 4 – reading, and Week 5 – writing). In the final week of the virtual exchange, Week 6, participants focused on the general topic of teaching in their content area. The participants collectively recorded 12 hours and 22 minutes of meetings over the course of the six week virtual exchange, an average of 15 minutes per participant per week. The video recordings were reviewed in order to ensure that all participants completed the virtual exchange as instructed.

## 5. Data collection and analysis methods

The data consisted of weekly and final written reflections.

### 5.1. Weekly written reflections

After each weekly video meeting, participants watched the recording of their synchronous meeting and completed a weekly written reflection, via a worksheet, to reflect on their experiences and what they noticed (Schmidt, 1990) about their interactions. Each weekly written reflection consisted of the below questions and tasks regarding the weekly topic.

4. Although English as the Lingua Franca (ELF) interactions usually take place with non-native speakers of English (Seidlhofer, 2005), "this does not preclude the participation of English native speakers in ELF interaction" (Seidlhofer, 2005, p. 339). Just as some participants utilized their L1 in the study described in Lenkaitis and Loranc-Paszylk (2019), one participant used his L2 in this study.

- After watching your recording, list details from your partner exchange that you noticed about teaching (listening, speaking, reading, writing, or in your field).
- For each detail, share your personal thoughts and reflect on this specific part of your virtual exchange with your partner(s).
- List ideas you have about teaching in your field based on your partner exchange.
- For each idea that you mentioned, what in the exchange affected you?

Mirroring [Lenkaitis \(2019, in press\)](#), word frequencies were completed via NVivo 12 for Windows to determine the most frequent words in the open-ended responses and what coding categories emerged from the data. Two coders then independently analyzed the data into these categories, also using NVivo 12 for Windows. Before coders worked together to reconcile differences, a 94.2% agreement (Kappa=0.68 with  $p<0.001$ ) was reached. Finally, they chose the most representative examples to use for reporting purposes.

## 5.2. Final written reflections

After all synchronous meetings were completed, participants were instructed to watch their video recordings in order to review how reflecting on their recordings of video meetings supported their professional development. The below questions and tasks were given to participants on the final written reflection, via a worksheet.

- In what ways has your partner experience helped support your teaching in your field?
- List details from your collaboration that affected your teaching.
- For each detail that you mentioned, share your personal thoughts and reflect on this specific part of your virtual exchange.
- List ideas you have from your collaboration that affected your teaching.
- For each idea that you mentioned, what in the exchange affected you?
- Reflect on your six week virtual exchange and the teaching methodologies you have learned compared to your partner. Discuss similarities and differences as well as any other observations.
- Apart from the above questions, please feel free to reflect on anything else about the virtual exchange.

Just as was done for the weekly written reflections, word frequencies were also carried out for the final written reflections using NVivo 12 for Windows. Upon identifying the most frequent words, coding categories were determined. Before reaching a 100% agreement, the same two coders independently coded the data and arrived at a 95.1% agreement (Kappa=0.64 with  $p<0.001$ ).

## 6. Results

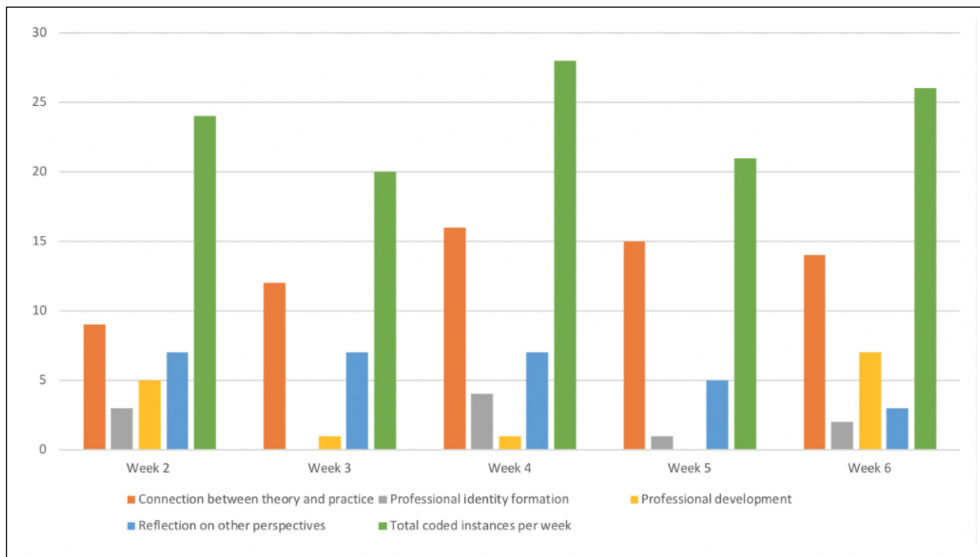
### 6.1. Weekly written reflections

All eight participants completed all five of the weekly written reflections for Weeks 2 to 6. After completing word frequencies, the following four themes emerged:

- connection between theory and practice – instances when teacher candidates made a connection between what they learned in the classroom and their virtual exchange experience;
- professional identity formation – instances when teacher candidates noted an increase in confidence and/or a characteristic needed for his/her profession;
- professional development – instances when teacher candidates mentioned strategies that he/she would implement in the classroom; and
- reflection on other perspectives – instances when teacher candidates commented that they agreed with their partners' perspectives, found their partners' perspectives helpful, and/or reflected on something related to culture.

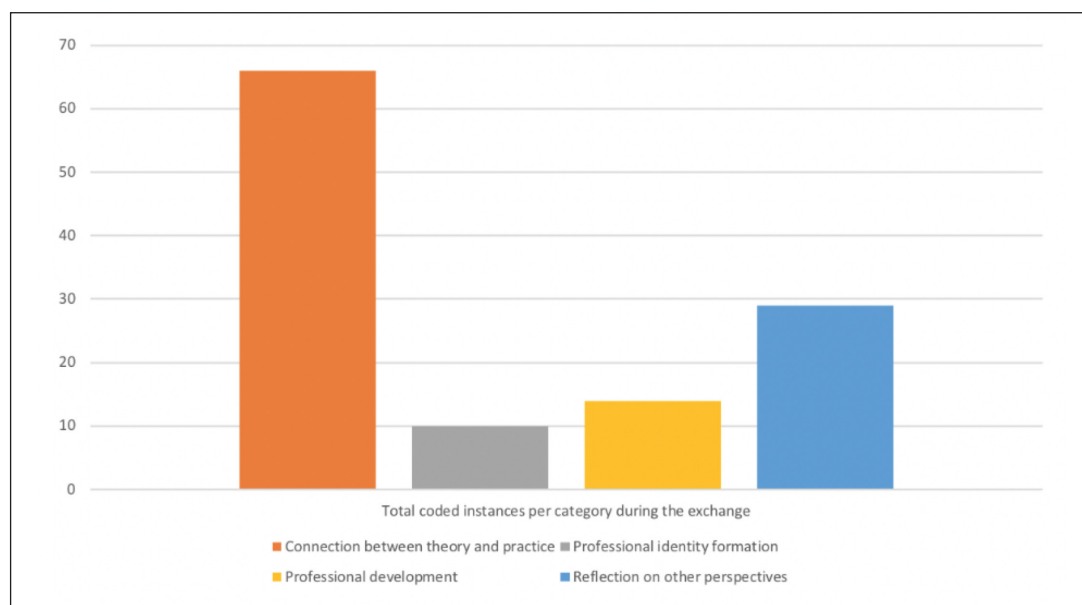
Figure 1 and Figure 2 detail the coding breakdown by week and throughout the virtual exchange.

**Figure 1. Total number of coded instances for weekly written reflections by category per week**





**Figure 2. Total number of coded instances for weekly written reflections throughout the virtual exchange**



As seen in [Figure 1](#), although the number of coded instances was largely consistent from week to week, the category with the highest number of coded instances every week, ‘connection between theory and practice’, far exceeded the others. [Figure 2](#) shows that there were 119 total coded instances for all weekly written reflections. Examples of coded instances for each coding category are illustrated in [Table 1](#). Specific dialogue from the virtual exchange recordings is presented in order to support participants’ reflections.

**Table 1. Examples of coded instances from weekly written reflections**

Coding category	Example of coded instance	Corresponding video transcript (if applicable)
Connection between theory and practice	“At the time, we were discussing Communicative Language Teaching (CLT) and Audio Lingual Method (ALM). While all of us see value in CLT, I seemed to be the only one of us who still sought to incorporate ALM as a way to teach grammar concepts. This may change over time. In fact, I am starting to realize that my affection of ALM may be why it is difficult for [sic] to look beyond a grammar concept as that which drives a lesson. However, I will need more classroom experience before I decide to let go of ALM all together” (Participant 3).	I do not focus on drilling that much (Participant 3, Week 6, 18:20-18:22).

Professional identity formation	“The speed and pronunciation can represent a huge obstacle for the students since they can vary in each individual. In that case, we could help our students to overcome that difficulty by exposing them to authentic materials that present different intonation and speed patterns to give them the familiarity they need to start understanding more.... It is necessary to inform the students about the expectations and the purpose of the activities, so they can concentrate on what is needed, instead of trying to understand every single word they hear” (Participant 5).	I think that’s important is to let the students know what is expected (Participant 5, Week 2, 9:47-9:52).
Professional development	“This is something I do as a second language writer and it always works. I think that giving these strategies to our students can also help them to improve their writing” (Participant 7).	When you feel the inspiration to write, just sit down and write all you can, and then you revise it (Participant 7, Week 5, 2:40-2:44).
	“Honestly, I could not get new ideas from my partner experience since we basically discussed what we read, instead of sharing our teaching experiences. I believe the instructions for the Zoom sessions should be more explicit so we can bear them in mind when we Zoom” (Participant 6)*.	
Reflection on other perspectives	“I agree wit[h] this strategy because some times [sic] students have to read very long texts and after that they have to answer very specific questions that make them go back and read the whole text again in order to find the answers. This can make students feel frustrated as [they] lose interest” (Participant 4).	Tell students to read the questions beforehand (Participant 4, Week 4, 1:33-1:36).
	“Who would want to keep speaking a language if he/she is always told he/she does something wrong when doing so. In my own experience as [a] second language learner, I remember teachers that would stop me in mid-sentence to highlight a simple slip of the tongue. This was very frustrating! It only made me scared to speak the language around that teacher” (Participant 3).	In most of the classes I have observed, teachers focus on the errors that students make to make them speak properly (Week 2, 1:58-2:02).

\* This was the only open-ended response that was negative throughout all the weekly reflections.

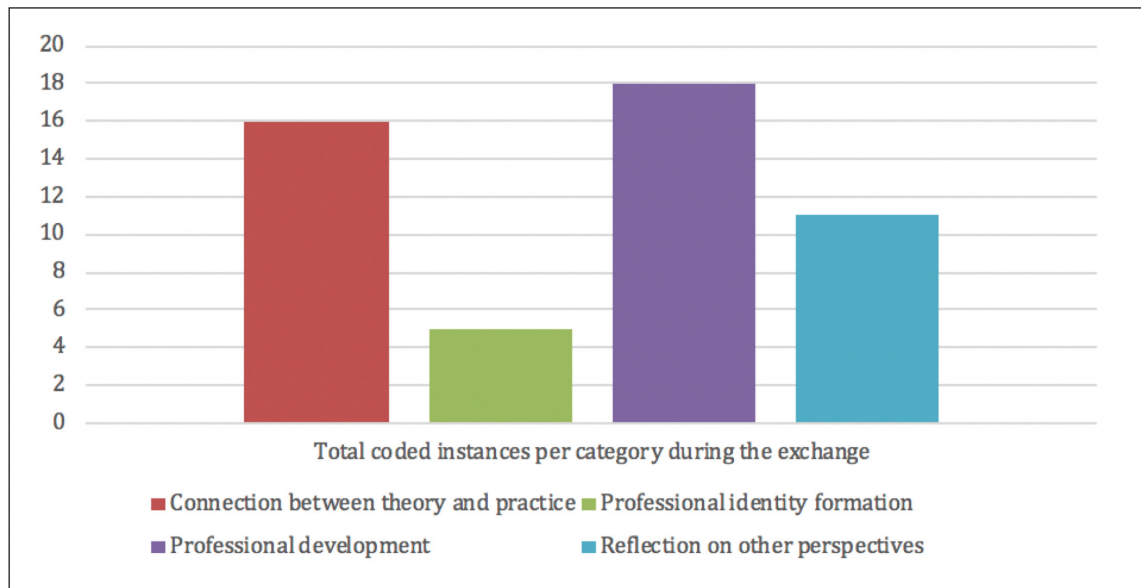
As illustrated in Table 1, regardless of the category, the themes listed exemplify how the virtual exchange experience and subsequent watching of video sessions support teacher candidates’ professional development. Some teacher candidates mentioned specific theoretical foundations and their agreement and/or disagreement with them upon reflecting about their interaction with their partner(s). Teacher candidates also commented on characteristics that they needed to be a teacher. Some noted that there can be other impediments that affect pedagogical practices. For example, Participant 5 noted “It is necessary to inform the students about the expectations and the purpose of the activities, so they can concentrate on what is needed, instead of trying to understand every single word they hear”.

## 6.2. Final written reflections

All eight participants completed the final written reflections at the conclusion of the virtual exchange. After completing word frequencies, the same themes as the weekly written reflection emerged for this final reflection: connection between theory and practice; professional identity

formation; professional development; and reflection on other perspectives. Figure 3 illustrates the coding breakdown for the final written reflections.

**Figure 3. Coding for final written reflections**



As depicted in Figure 3, of the total 50 coded instances, the highest coded category was ‘professional development’ with 18 coded instances. ‘Connection between theory and practice’ was the second highest coded category with 16 coded instances. Table 2 lists examples from each coded category.

**Table 2. Examples of coded instances from final written reflections**

Coding category	Example of coded instances	Corresponding video transcript, if applicable
Connection between theory and practice	“My teaching was affected by Jorge’s display of patience and care for his elementary students. It helped me, just in case one day I have little kids in my classroom” (Participant 1).	I don’t think they don’t have that [sic] skills at that age but I could give them more opportunities to talk (Week 6, 12:22-12:34).

Professional identity formation	<p>“Teaching is more than giving instructions. Teaching is helping students develop critical thinking to give them tools to act in different situations. Teaching is a process that have [sic] an initiation, middle, and ending process. After my six week telecollaborative exchange, I have realized that I need to bear in mind essential elements when teaching English. First, concentrate on my particular context, bearing in mind its constraints... Second, choose teaching material carefully. It is important to teach through authentic and non-authentic material to prepare them for real-life encounters... Third, give learners a purpose to perform every activity they do. In that way, they can realize that every action has a reason. Fourth, give learners enough opportunities to practice skills that will help them develop a critical thinking. Through learning strategies, we can encourage them to be part of their own learning process and self-evaluate their progress... Finally, help them recognize their values as well as be opened to those of others.... From my telecollaborative partners, I have learned that no matter what methodology we use, learning a language involves a mix of methods and methodologies that we adapt and adopt according to our teaching context... Now, I am more aware of my responsibilities as a teacher. I think about my telecollaborative exchange, every time I need to plan a class. I think about the materials, objectives, purposes, expectations, limitations, and more importantly, their needs and what motivates them to learn the language” (Participant 5).</p>	Not applicable.
Professional development	<p>“This just made me think that I could work harder to incorporate culture in to [sic] my lessons. I incorporate cultural aspects, but at no point am I actually teaching about the culture. This is something I will think about. I find myself wondering if I could take a concept and teach it while teaching about culture at the same time” (Participant 3).</p>	This lesson is more focused on cultural awareness (Week 6, 27:13).
	<p>“Sharing my knowledge and teaching philosophy and learning from my partners during this exchange has been one of the best experiences I have had as a teacher. All my partners are very skilled and have shown me different ways to encourage our students to learn the target language and culture” (Participant 7).</p>	Not applicable.
Reflection on other perspectives	<p>“Although we are in two different countries, we follow the same steps in a lesson. We follow the same sequence to help students acquire the language” (Participant 4).</p>	The structure of the class, the stages of the class, those are the stages that we use in class. Actually, I didn’t have to modify too many things in my learning segment, I just made some adjustments for this activity, but that’s what we do every day in class (Week 6, 18:59-19:20).
	<p>“Through their experiences in teaching, I have learned and found reasons that make me think I am in a teaching good track. Their experiences have also helped me realize that there are many ways in which I can approach my teaching practice to help my students acquire the necessary skills to communicate in another language” (Participant 5).</p>	Not applicable.

As highlighted in Table 2, regardless of the category, the themes in these final reflections continue to demonstrate how the virtual exchange experience and subsequent watching of video sessions supported teacher candidates' professional development. Teacher candidates, such as Participant 5, recognized the value in having their students have a critical reflective lens so that they can be part of their own learning processes and consequently self-evaluate their professional development. Teacher candidates, like Participant 4, also noticed similarities between their own and partners' pedagogies. Even though participants were from different countries, they recognized that they followed the same lesson plan steps and sequencing to support their students' language learning. Furthermore, teacher candidates thought about the similarities and differences of their school system and teaching styles with that of their partner(s)' and made connections to their pedagogies. For example, Participant 1 noted "[m]y teaching was affected by Jorge's display of patience and care for his elementary students. It helped me, just in case one day I have little kids in my classroom".

## 7. Discussion

The reflective opportunities embedded in this virtual exchange that partnered L2 teacher candidates with other L2 teacher candidates from another culture supported teacher candidates' professional development in a variety of ways. In order to answer this study's research question, the discussion is divided into the four coding categories. Utilizing these themes illustrates the ways in which teacher candidates reflected on their self-perceived professional development. Except for one negative participant comment from the Week 4 reflection, all other open-ended comments were overwhelmingly positive. It was unmistakable that the use of technology, via recordings of SCMC sessions, for reflection was valuable as it gave pre-service teachers the opportunity to review their interactions after the fact and use them as a vehicle for professional development.

### 7.1. Connection between theory and practice

Because the majority of weekly open-ended responses were coded as 'connection between theory and practice', it was apparent that teacher candidates were consistently thinking about how they would apply what they learned in their coursework to their classrooms. It appeared that as a result of reflecting on their video meetings, teacher candidates noticed the ways that their coursework had pedagogical implications and seemed to have made the connections between theory and practice. Although this virtual exchange and subsequent reflection supported the professional development of their pedagogies due to the mutual prescription of certain practices, it also showed that each teacher candidate was self-evaluating what he/she believed. Just as L2 teacher candidates made connections to their coursework and practical training after watching recorded video sessions in

Lenkaitis (2019, 2020a, *in press*), L2 teacher candidates in the current study were able to bridge theory into practice as their reflective practice sparked ideas for what they would like to implement into their classrooms. These reflective opportunities allowed teacher candidates to reflect upon their coursework and methodology prior to practicum or student teaching experiences (Nelson et al., 2016).

Because of their observations, like the speed of the speaker's speech, teacher candidates reflected on what they could do in class to support their students. Teacher candidates also made connections to their own L2 learning experiences, which in turn, would help their students. By reflecting on these personal practical theories and remembering what helped them or not in their own learning, they seemed to become more aware of the need to take their own experiences into account when teaching. It is clear that the virtual exchange and subsequent watching of recorded sessions had an impact on teacher candidates. Because of this, teacher candidates seemed more motivated because they realized that they were making connections between theory and practice and recognizing pedagogical knowledge, which developed their own pedagogical practices.

## **7.2. Professional identity formation**

Through the reflective process of watching recorded sessions, teacher candidates identified characteristics that they needed to be a teacher. Regardless of what they noted, each observation allowed students to develop their pedagogical practices prior to their practicum or student teaching experiences, which consequently formed their professional identity. By interacting with other teacher candidates from other cultures, teacher candidates seemed to realize that there were a variety of ways to approach teaching. The coded instances showed that they recognized shared commonalities with their partners. By focusing on real-life issues and having this real-world experience through virtual exchange and then reflecting on recorded sessions, they were able to become even more aware of the responsibility they have to their students.

Therefore, it was noticeable that as teacher candidates were forming their professional identities through this reflective process, they also seemed to realize that they can evolve in a variety of other ways, just as in Lenkaitis (2019), upon watching recordings of their video sessions, EFL learners were able to think about their identity as a language learner. Similar to the current study's teacher candidates, these EFL participants also noticed things they had not noticed before participating in this reflective process. By reflecting on their recorded virtual exchange sessions, it was evident that teacher candidates were also taking charge of their own professional development by becoming their own learning "agents" (Lantolf & Pavlenko, 2000, p. 162) through their new-found self-awareness.

### 7.3. Professional development

Since teacher candidates were reflecting on their virtual exchange experience with other teacher candidates, it made sense that the majority of final written reflections were coded as ‘professional development’. Because ‘connection between theory and practice’ came in a close second, it seemed that teacher candidates were reflecting on ways to develop their pedagogies. Therefore, using this virtual exchange with subsequent reflection was a way to develop professionally. As teacher candidates reflected on their recorded virtual exchange interactions, they saw value in the virtual exchange itself and ways to use it as a springboard to lesson planning. By completing weekly and final reflections, teacher candidates seemed to observe the importance of the reflective process. Although there was only one negative comment in all of the weekly worksheet response for all participants, this one comment, as noted in Table 1, showed that after watching this recorded synchronous session, Participant 6 was able to, of the challenges of the virtual exchange for a given week, reflect on (1) the inability to obtain new ideas from the partner experience, and (2) the frustration with unclear instructions. By utilizing these perspectives, this teacher candidate had the opportunity to think of ways to overcome challenges (Friedman, 1999; Rudolph, 2006) in his own classroom.

Like virtual exchanges in pre-service teacher education that have been used to develop pedagogies for learning to use technologies in teaching (Dooly & Sadler, 2013; The EVALUATE Group, 2019), this virtual exchange project allowed teacher candidates to reflect on pedagogies for teaching in their field, more specifically, the skills of listening, speaking, reading, and writing. Although teacher candidates’ open-ended weekly reflection responses showed some professional development, the final written reflections showed an even stronger awareness of how the virtual exchange and the subsequent watching of recorded sessions supported the teacher candidates’ pedagogies. Perhaps this can be explained by the fact that these reflections were focused on the entire six week virtual exchange, while the weekly reflections were about the five video meetings. Regardless, echoing Lenkaitis (2020a, *in press*), by reflecting on their recordings, teacher candidates had the opportunity for deep reflection of teaching practices. Teacher candidates were becoming more aware that teaching was multi-layered. By interacting with their teacher candidate partner(s), the practical experience, via the virtual exchange and subsequent reflection, afforded teacher candidates the ability to look at L2 teaching and learning through a new lens and get “additional hands-on experience beyond the classroom” (Lenkaitis, 2019, p. 10).

### 7.4. Reflection on other perspectives

Just as teacher candidates in The EVALUATE Group (2019) study developed more than pedagogies, this study showed that candidates reflected on a variety of things beyond teaching methodologies.

By having knowledge about other people's teaching, teacher candidates seemed to realize that the struggles that they have in their own culture is the same for others. By encountering these new perspectives (Hickson, 2011), virtual exchanges with subsequent reflection provide an opportunity for students to think of innovative ways to find solutions to overcome classroom challenges.

Making these additional connections seemed to increase teacher candidates' confidence level. By recognizing each other's unique perspectives on how to incorporate methodologies, teacher candidates seemed to be able to store these new ideas for their own use. Comparable to Lenkaitis (in press), teacher candidates were able to reflect on ways to integrate culture into L2 teaching and learning. By watching recorded sessions and reflecting on them, L2 teacher candidates were able to self-evaluate their pedagogies and those of their partner(s), and noted how they would implement these similar and/or different cultural viewpoints into their L2 teaching strategies and approaches.

### **7.5. Limitations**

Because the majority of the data were self-reported, some participants may have not been completely forthcoming in their reflections. In addition, the small sample size means that it is not possible to make assertions about whether these findings can be applied to all teacher candidates in virtual exchanges that included reflections on recorded meetings. Future studies that involve larger sample sizes as well as teacher candidates in different content areas and from different countries and/or the same country will be helpful to uncover additional benefits of reflection in a teacher candidate virtual exchange. Finally, utilizing teacher candidates' L1 and/or L2 as opposed to a lingua franca might also be beneficial in exploring how language might affect the ability for participants to express themselves in their reflections.

## **8. Conclusion**

Through this study's virtual exchange that partnered L2 teacher candidates from the United States with L2 teacher candidates from Colombia, participants had a dynamic experience that internationalized their curriculum (Rubin & Guth, 2015). By interacting with partners from another culture weekly through videoconferencing, teacher candidates were able to discuss a variety of topics related to teaching. This interaction and subsequent watching of recorded sessions helped teacher candidates develop reflective practices that allowed them to develop as an educator prior to their practicum or student teaching experience. Not only were pre-service teachers able to create connections between theory and practice and form their professional identity, but they also developed professionally and



reflected on others' perspectives to develop their own pedagogical practices. Based on the findings of this study, it seems clear that teacher preparation programs, more specifically those for L2 teachers, should consider embedding SCMC-based virtual exchanges and subsequent reflection of recorded video meetings into their programs.

## 9. Ethics approval

All procedures performed in this study were in accordance with the ethical standards of the institutional review board. Informed consent was obtained from all participants in the study and data was stored in password-protected files. All participants' confidentiality was protected as data was de-identified.

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