Article

Virtual exchange among pre-service teachers of English as foreign language: Literature recommendations for practice

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Abstract: Use of technologies and online presence is now almost inevitable in language learning. The practice of virtual exchanges (VEs) has been receiving a lot of attention among educators at all levels over the past years. This research paper sheds light on 13 VEs carried out in pre-service teacher education in the last six years and proposes its own VE design based on recommendations from the literature with the future perspective of designing a specific VE for the research. The aim of the systematic review was at first to determine the exchange and interaction set-ups and the potential gains in the terms of pre-service teachers' skills development. Afterwards, we identified areas for improvement and proposed our design of a VE between pre-service teachers of English in Slovakia and Turkey. Some of the expected contributions of the proposed VE design are development of a linguistic and intercultural communicative competence, digital literacy, and other competences relevant for development of VEs.

Keywords: virtual exchange; pre-service English teachers; intercultural; linguistic; digital competences development; practice recommendations

1. Introduction

As we live in a globalized and digitalized world, there has been a continuing pressure on teachers in general and English as foreign language (EFL) teachers specifically to use practices that would help their learners prepare for life in the 21st century. English language proficiency, intercultural communicative competence (ICC), digital literacy, and ability to learn independently are a big part of such preparation. Interestingly, it is English that people use the most for their everyday online interaction (Bhutada, 2021). Therefore, it is important for EFL teachers to support their learners in increasing their technology competency and English proficiency. In addition, teachers could capitalize on the rich intercultural space that the internet provides and encourage the autonomous use of many resources that could be found there. Furthermore, the situation arising around the COVID-19 pandemic in 2020, 2021, and 2022 emphasized the importance of virtual learning that develops various skills and competences of learners.

The practice of virtual exchanges (VEs) has been receiving a lot of attention among educators at all levels over the past years. In addition to being the topic of the four leading journals on computer-assisted language learning (CALL)—ReCALL, Computer Assisted Language Learning, Language Learning and Technology, and CALICO, the concept of VEs has captured the interest of authors producing a number of publications (Dooly and O'Dowd, 2018; Guth and Helm, 2010; O'Dowd and Lewis, 2016).

Whether known as online intercultural exchange, collaborative online international learning, e-tandem learning (Lewis and O'Dowd, 2016) or telecollaboration (Guth and Helm, 2010), VEs encourage virtual projects among groups of students who come from different geographical or cultural backgrounds with the goal of communicating and collaborating via the internet (Lewis and O'Dowd, 2016). With this in mind, research has emphasized the opportunities of VEs with its contribution to development of language proficiency, ICC, new online literacies (Guth and Helm, 2010, p. 14) and encouragement of autonomous learning (O'Dowd and Waire, 2009).

Implementation of VEs in the EFL instruction has been shown to be beneficial for learners. However, the effective VEs can be challenging for EFL teachers to master due to a number of different competences of a telecollaborative teacher (O'Dowd, 2015). Unfortunately, although there has been an increase in university courses focusing on CALL, the information about VEs in these courses is still scarce (O'Dowd, 2021). This could result in in-service novice teachers' hesitance in designing and implementing VEs in their classrooms. To our best knowledge, there is no review research on the impact of VEs within the context of pre-service teacher education. Thus, the aim of this review research is to find possible model examples of VEs from the published sources for the planned VE between among pre-service English teachers in Slovakia. To achieve this objective the following questions have been established for the literature survey:

- What type of participants (students or teachers) and contexts (exchange and interaction set-ups) were involved in the existing VMs?
- What were the major findings in terms of pre-service teachers' skills development specifically in English language competence, ICC, and other relevant skills?
- Are there any gaps in the topics of VMs that should be taken into consideration when planning the VM and suggestions for further research and practice?

2. Review methods

For the research aim the systematic review was employed and it consisted of the following steps: 1. literature search, 2. application of inclusion/exclusion criteria, 3. coding of selected study reports.

2.1. Literature search

To access the literature, the following keywords were selected, that were typed in the ERIC database as of 13 November 2021: "virtual exchange", "pre-service teacher education". We obtained 21 results. Additionally, "telecollaboration" was added and the list of results increased by 30. A manual search of five key journals in CALL was conducted for additional articles. No reports were added to the retrieval of literature.

2.2. Application of inclusion/exclusion criteria

After excluding the duplicates, the abstracts were read while applying the criteria below:

1) date of publication between 2016 and 2021,

2) empirical study,
3) publication in a peer-reviewed journal,
4) language of exchange: English,
5) participants: pre-service teachers of English,
6) purpose of exchange: language learning for at least one of the participating groups.

Based on these criteria, 13 study reports were included in the review (see Appendix for the complete list of the studies).

2.3. Coding of selected study reports

Using Akiyama and Cunningham's modified (2018) coding book we created an analytic synthesis table with information about participants and contexts of the exchanges (see Appendix for the Analysis table). The analytic synthesis table contains the following data: 1. participants (number of participants, participants' first language, proficiency level of English), 2. exchange set-ups (focus of the exchange, exchange duration), and 3. interaction set-ups (interaction type, type of tasks, technology used). In addition, the review focused on studies' findings relevant to development of linguistic competence, ICC, and any other relevant skills.

3. Review results

Below are the findings of the review. The complete list of the studies can be found in Appendix.

3.1. Participants

3.1.1. Number of participants

The number of participants ranged from 15 to 100. Fuch's (2016) study included the smallest number of participants and Waldman et al.'s (2019) study the most. The average number of participants in the exchanges was 47.

3.1.2. First languages

The participants of the selected studies spoke17 first languages. Most studies (six studies) had participants whose first language was English. German, as the first language of participants, was mentioned in five studies. In three studies participants' first language was Polish, Spanish, and Korean. Chinese, Vietnamese, Hebrew, and Turkish are mentioned in two studies. Other first languages include Arabic, Russian, Swedish, Serbian, Dutch, Russian, Taiwanese, and Latvian (each mentioned in one study). **Figure 1** illustrates participants' first languages and their frequency in the selected 13 studies.
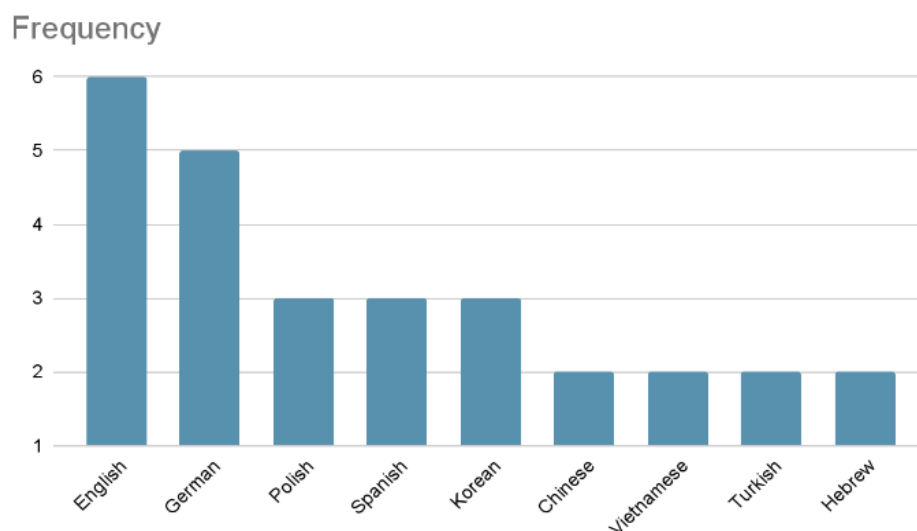
Figure 1. Participants' first languages.

3.1.3. Proficiency level of English

Apart from the native speakers of English, the English proficiency level of the participants is mostly between B2–C2 (three studies) according to the Common European Framework of Reference (Council of Europe, 2020). Gajek and Calderón-Quindós' (2018) study has participants whose proficiency level was B1. Martins and Werner's (2019) study indicates participants with A2 English proficiency level. Other studies do not report on their participants' proficiency level. **Figure 2** illustrates participants' proficiency of English and their frequency in the selected 13 studies.
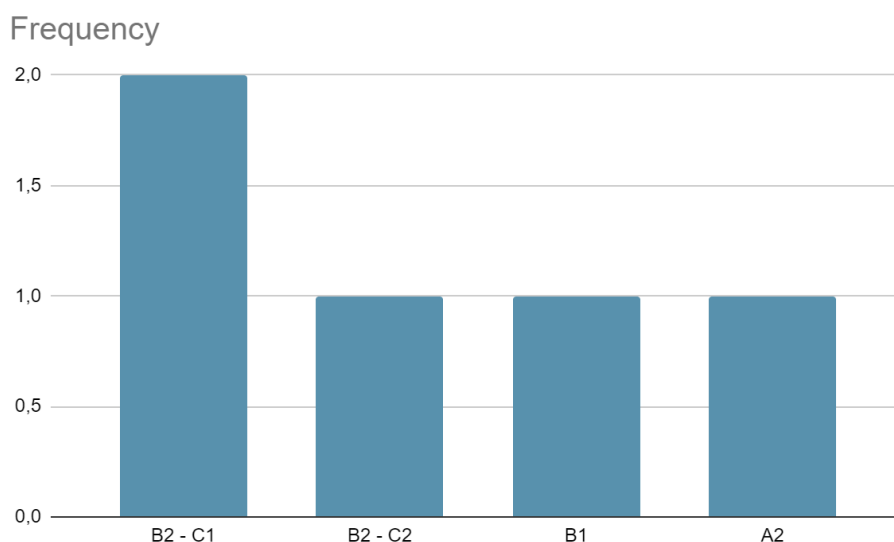
Figure 2. Participants' proficiency of English.

3.1.4. Focus of the exchange

The selected studies focused mainly on the development of pre-service teachers' digital skills (six), linguistic competence (five), and ICC (five). Other aspects of the exchanges related to tasks–design, implementation, and evaluation–reflection on pre-service teachers' teaching practice, implementation of mentoring strategies, pre-service teachers' attitudes towards VEs, and transfer of teaching skills to students.

Figure 3 illustrates different foci of exchanges and their frequency in the selected 13 studies.

Figure 3. Focus of the exchanges.

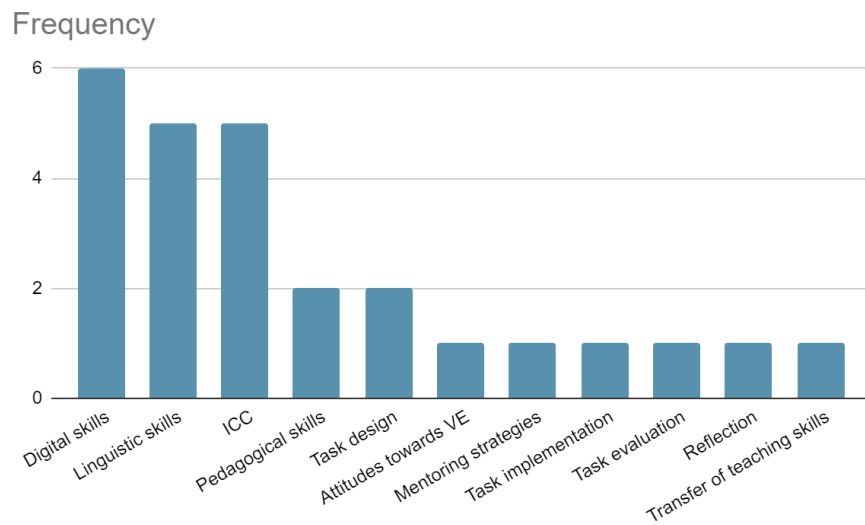### 3.1.5. Exchange duration

The exchanges in the selected studies lasted from three to 14 weeks. The most common duration is six weeks. Four studies (Fuchs, 2019; Loranc-Paszylk et al., 2021; O'Dowd et al., 2020; Üzüm et al., 2020) lasted six weeks. The average duration of the exchanges is seven weeks.

3.2. Interaction set-ups

3.2.1. Interaction type

Participants in the selected studies interacted in three ways–asynchronously, synchronously, and synchronously combined with asynchronous interaction. The most popular interaction pattern is asynchronous communication (seven). Then four exchanges reported using asynchronous communication combined with synchronous communication. Only two studies reported on using solely synchronous communication (Kurek and Müller-Hartmann, 2019; Loranc-Paszylk et al., 2021). **Table 1** depicts the interaction type in the selected studies.

Table 1. Interaction type.

Interaction Type	Frequency	Studies
Asynchronous	7	Dugartsyrenova and Sardegna (2019); Fuchs (2016); Grau and Turula (2019); Martins and Werner (2019); O'Dowd et al. (2020); Üzüm et al. (2020); Yang (2020)
Synchronous and asynchronous	4	Dooly and Sadler (2020); Fuchs (2019); Gajek and Calderón-Quindós (2018); Waldman et al. (2019)
Synchronous	2	Kurek and Müller-Hartmann (2019); Loranc-Paszylk et al. (2021)

3.2.2. Type of tasks

Seven exchanges followed O'Dowd and Waire's (2009) framework of virtual exchanges: (1) information exchange (students introduce each other), (2) comparison and analysis (students exchange opinions about a topic and look for similarities and

differences of their perceptions), and (3) collaboration (students collaborate in local or international teams on creating a common product). Three studies describe exchanges with theme-based tasks. Two other exchanges included individual production (a recording of a video, a blog post) and partner feedback. One exchange did not report on the type of tasks. **Table 2** lists the studies using the three-task O'Dowd and Waire's (2009) model.

Table 2. Three-task model by O'Dowd and Waire (2009).

O'Dowd and Waire's (2009) Framework	Studies
1) Information Exchange 2) Comparison and Analysis 3) Collaboration	Fuchs (2016); Fuchs (2019); Gajek and Calderón-Quindós (2018); Grau and Turula (2019); Kurek and Müller-Hartmann (2019); O'Dowd et al. (2020); Waldman et al. (2019)

3.2.3. Technology included

Video conferencing tools were the most frequently used ones in the studies. Text-based chat tools, learning management systems (LMS), video streaming and video/audio discussion tools followed video conferencing in terms of frequency of use. Online text-based dashboard tools, such as Padlet, were used in three studies. Two exchanges used website builders and blogging tools. Other tools such as video recording, video making, email exchange tools, online document editors, cloud storages were also used to enhance the VE contexts. **Table 3** presents different technological tools and their frequency in the 13 selected studies.

Table 3. Technology tools used in the studies.

Category	Tool	Frequency
Video conferencing	Google Hangouts Skype Facetime Zoom	7
Text-based chat	Facebook WhatsApp WeChat	6
LMS	Moodle Edmondo	5
Video streaming and video/audio discussion tools	Vimeo Vialogues Flipgrid Voicethread Voxopop	5
Online text-based dashboards	Padlet	3
Website builder	Wix Weebly	2
Blogging	Blogger About.me	2

Table 3. (*Continued*).

Category	Tool	Frequency
Video recording	Screencast-o-matic	1
Video making	Windows Movie Maker	1
Email Exchanges	Gmail	1
Online Document Editor	Google Docs	1
Cloud Storage	Google Drive	1

4. Pre-service teachers' skills development

The selected studies reported on the development of diverse skills through the practice of VE. Among the most frequently developed competencies and skills were English language competence, ICC, and digital skills. Other examined skills were pedagogical and project management skills, organizational competence, development of attitudes and beliefs and solving problems strategies.

Four studies highlighted the development of pre-service teachers' ICC. In general, the participants expressed openness and curiosity about their partners' culture and perceived VE as a positive opportunity to learn about different cultures. Üzüm et al. (2020) summarizes the impact of VE on ICC by listing three salient themes from the data: "awareness of heterogeneity", "nascent critical cultural awareness" and "curiosity about the other culture" (pp. 167–172). Grau and Turula's (2019) study also reports on the strong development of the "attitudes and beliefs" category that could relate to the ICC. In the study, pre-service teachers perceived improvement in their "willingness to compromise" and "interest in collaborative learning of different aspects of language and culture" (p. 104).

Second most frequently improved skills were digital skills. The exchanges provided the pre-service teachers with an opportunity to experiment with different technological tools (see **Table 3** for the list of technological tools), and thus the participants expressed their eagerness to use the tools later in their teaching. One of the reasons why the participating pre-service teachers expressed a desire to implement different tools in their teaching is that the VEs represented "a model for digital pedagogy" (Waldman et al., 2019, p. 178).

As far as English language competence, the selected studies did not report particularly on its improvement. Only two studies commented specifically on linguistic development. Dugartsyrenova and Sardegna (2019) illustrated the perception of Russian pre-service teachers towards the development of their English language skills. Two pre-service teachers from their study expressed that the exchange helped them to improve particularly their oral language skills. On the other hand, Gajek and Calderón-Quindós (2018) commented on perceptions of two groups of participants – more and less advanced English language speakers. Whereas the less advanced perceived gains in development of their English language competence, the more advanced did not. Despite these findings, the authors suggested that even though the more advanced participants did not improve their English skills, they developed their discursive competence–skills necessary in order to interact with speakers whose command of English is lower.

Based on the selected studies participation in VEs develops pre-service teachers pedagogical and organizational skills. Dooly and Sadler (2020) stress that students learn how to design and implement VE. In addition, they also learn how to "negotiate effectively with partner-teachers" (Grau and Turula, 2019, p. 104), and they gain project management and problem-solving skills (Gajek and Calderón-Quindós, 2018).

5. Discussion and recommendations for further research and practice

Bringing together the above findings and with reference to our third research question, we identified areas for improvement for more effective VEs in the context of pre-service teachers education. In the discussion that follows, we briefly outline some recommendations regarding the exchange set-ups, interaction type, type of tasks, and role of the instructor.

5.1. Exchange duration

When setting up an effective exchange within the context of pre-service teachers' education, it is important to take into consideration the length of the exchange. As described in the results section, the majority of the selected exchanges lasted more than six weeks. To develop certain skills and transfer the knowledge of setting up the exchange to pre-service teachers, there should be enough time for individual tasks. Waldman et al. (2019) argue that the short time frame of their exchange could be the reason for their participants' lack of knowledge and readiness to apply the practice of VE into their future teaching. Although Waldman et al. (2019) expressed their dissatisfaction with the exchange duration, it was the longest exchange–14-weeks– among the all selected studies. The short duration of the studies is usually caused by institutional constraints. Çiftçi (2016) explains that projects are arranged between two universities with different schedules and timelines. To make the VE as effective as possible, based on the analysis of the selected studies, it is advisable to dedicate at least six weeks for the exchange.

5.2. Integration of synchronous communication

Undoubtedly, as far as the interaction type–synchronous vs. asynchronous– asynchronous type of communication was predominant in the selected studies. Although asynchronous communication should be used in VEs too, it should not be used as a sole type of communication. Synchronous video conferences build a bond between participants and make them more invested in the project (Lehotska et al., 2022). Martins and Werner (2019) express that their participants would enjoy more synchronous video conferences with their partner. By implementing at least some synchronous sessions, pre-service teachers could not only experience authentic communication, but they could also feel like members of the international community.

5.3. Inclusion of other activities to the well-established framework

Upgrade of the widely O'Dowd and Waire's (2009) three-task framework (information exchange, comparison and analysis, collaboration) was visible in some of the studies (Grau and Turula, 2019; Kurek and Müller-Hartmann, 2019; Waldman

et al., 2019). Apart from the synchronous meetings integration, the selected studies upgraded the sequence by regular reflection activities, peer feedback activities, team name creation activity, code of conduct brainstorm, and use of social activities. To intensify the learning, studies included in their VE schedule reflection activities, either in the form of a one final reflective essay (Grau and Turula, 2019; Waldman et al., 2019) or as weekly reflection logs or journals (Fuchs, 2016; Yang, 2020). By writing about their online exchange experience, including learning points, pre-service teachers get a chance to understand the benefit of such a pedagogical approach and are better equipped to replicate it in their teaching.

5.4. Agentive participants

In addition to reflecting on their experience, some of the selected studies provided participants with an opportunity to take control of their exchange. This was achieved by letting pre-service teachers choose their team name and create a code of conduct (Kurek and Müller-Hartmann, 2019; Waldman et al., 2019). To further establish students' social presence, Kurek and Müller-Hartmann (2019) inserted into O'Dowd and Waire's model (2009) another sociable task before the end of the exchange "What bothers me most" Padlet wall task. During this task pre-service teachers posted their issues in Padlet. By letting other students comment freely and offer their solutions, the authors supported participants' development of problem solving skills and investment in the exchange.

5.5. Supportive role of an instructor

Just as important as exchange and interaction set-ups is the role of the instructor and the support they provide to participants throughout the exchange (Çiftçi, 2016; Çiftçi and Savaş, 2018). The current literature review has revealed that there is a need for training participants of VEs in terms of their technological but also language and intercultural competence (Dugartsyrenova and Sardegna, 2019; Fuchs, 2019; Gajek and Calderón-Quindós, 2018; O'Dowd et al., 2020). As far as technological support, in order to minimize the participants' frustration and maximize their learning, the researchers–instructors prepare manuals (written and oral) to equip participants with the necessary skills to participate in the exchange. To prevent and deal with potential communication breakdowns, instructors have emphasized the value of analyzing critical incidents that arise (O'Dowd et al., 2020). Despite the rich potential of VEs, leaving pre-service teachers to their own devices, may not lead to effective communication. O'Dowd et al. (2020) suggest pre-teaching successful key language features and strategies, using manuals for teaching netiquette, and analyzing and discussing online interaction.

In order to sum up the suggestions taken from the analyzed VEs mentioned above, these five could be taken into consideration when planning an effective VE:
1) Considerable time should be devoted to an effective VE, i.e. minimum six weeks.
2) Virtual exchange should combine both, synchronous and also asynchronous, forms of work.

3) Through reflection on the process of VE, pre-service teachers develop their professional pedagogical competencies that are later on employed in their teaching practice.
4) VE participants should share responsibilities over a VE course. They should be actively engaged and involved in decision-making processes.
5) The role of a VE instructor is essential in the following phases:
    - pre-VE phase—preparation of curricular (content) and technical (appropriate classroom setting, ICT equipment and connections) aspects;
    - while-VE phase—explanation of the VE goals, course and outcomes to the participants, with the timeline, providing comprehensible supporting instruments and tools, facilitating the content, reflecting on partial results through participants' reflections, identifying challenges, solving unpredictable situations, controlling ongoing work and deadlines, collecting partial data;
    - post-VE phase—summarizing, reflecting, analyzing data, drawing on conclusions, disseminating the outcomes to professional and academic communities.

6. Slovak-Turkish VE design

Based on the findings from the analyses of VE described above, a model of a VE between Slovak and Turkish faculties of education was designed. The two institutions, the Faculty of Education in Nitra, Slovakia and University of Mersin, Turkey, decided to design and participate together in a VE due to the similarities of teacher preparation programs. Among the similarities was among others a number of participants (24 people in each group), similar standards related to linguistic and methodological requirements necessary for obtaining teaching qualification. Additionally, a language of instruction at both institutions is English. The groups chosen for the VE are students in their second year of bachelor study.

Exchange goals:
- development of future teachers' intercultural communicative competence
- development of future teachers' telecollaborative competences (digital, pedagogical, organizational);
- development of linguistic competence.

Course goals:
- compare, contrast, and evaluate cultural aspects of various countries with an emphasis on Turkey and Slovakia;
- demonstrate intercultural knowledge and competence in conversations;
- create an online book summarizing the class content based on Hofstede dimensions;
- develop teaching and learning material regarding intercultural communicative competence.

Five recommendations described above in this paper have been considered and followed while planning the design of this VE. With regards to the first recommendation, i.e. the length of the project, having at least six weeks for reaching the goals, the design of the virtual exchange between pre-service teachers of English

in Slovakia and Turkey has followed this advice. It is planned into a twelve-week timeline of the summer semester in the academic year 2023/2024.

With respect to the second recommendation, involvement of asynchronous and synchronous meetings should be considered with the aim to keep the balance. The participants of a VE need to get to know each other and experience mutual bond, acceptance and way of cooperation. Thus, the design of the planned VE has been created so that both groups followed the same content during asynchronous nine meetings and three synchronous meetings with a possibility for all the participants to meet outside the agreed times and places at a chosen platform if necessary.

The reflective part of the study becomes essential in a qualitative-type of research. Following the guidance from the analyzed studies on virtual exchanges, reflections on communication, approaches, opinions, attitudes and feelings of participants become inseparable parts of VEs. Therefore, in a planned VE between Slovak and Turkish pre-service teachers of English, three reflection essays have been included in order to identify and evaluate possible challenges in their intercultural cooperative work. Thus, they can be followed by effective and helpful solutions from the supervisors at both institutions. Moreover, reflections provide authentic insights of VE participants that are valuable for further analyses. Experience of the participants is expected to be reflected in their future pedagogical career. Positive but also negative experience will be transferred into their pedagogical competence development.

Another recommendation towards effective VE was aimed at providing some space for participants. Their decisions on team names, code of conduct, means and times of meetings apart from the classroom and online space during organized events. This leads to their autonomous learning, as the participants in their working groups are responsible for fair division of work, sharing roles and responsibilities, developing their communication and collaborative competences, following their deadlines, and reaching required outcomes.

Finally, an instructor is a crucial person whose position is recognized within all three phases, that is planning, facilitating, and evaluating. In our VE, the instructors at first support the participants by providing them with a detailed Information pack with all of the necessary information about the project, such as goals, expected products, behavior, timeline, and deadlines. In other phases, the instructors will make sure to monitor the process of work and offer help to the participants. One of the planned activities is a Magnifying Glass Reflection during which the participants share challenges and identify solutions.

All in all, the planning process is an inevitable part of every project. The planned VE between Slovak and Turkish pre-service teachers of English thoroughly followed the concluded recommendations described in the relevant studies within the last 6 years.

7. Conclusion

This systematic review of 13 studies identified typical exchange and interaction set-ups of VEs in the context of pre-service teachers' education in the last six years. Furthermore, it examined the impact of VEs on development of pre-service teachers'

skills and competences. Finally, the paper highlights the good practices from the selected studies and provides suggestions for further practice of VEs.

It is important to remember that this systematic review does not include every study in the context of pre-service teachers education because of the selected criteria. Also, the review at hand does not take into account quantitative results of the study, and thus, it cannot determine the actual impact of VEs on pre-service teachers' skills development. Having acknowledged the limitations of this study, we conclude by saying that hopefully the analysis of the selected studies and provided recommendations with the specific examples from the VE between Slovakia and Turkey will support teacher trainers in implementing VE into their courses with the implications for the further research.

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Abbreviations

CALL	Computer-assisted language learning
CEFR	Common European Framework of Reference
EFL	English as foreign language
ICC	Intercultural communicative competence
ICT	Information and communication technology
LMS	Learning management systems
VE	Virtual Exchange

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Appendix

Table A1. Analysis table.

Study	Number of Participants	Participants' First Language	Participants' English Proficiency Level	Exchange Focus	Exchange Duration	Interaction Type	Technology Used	Skills Developed
Fuchs (2016)	15	Chinese Vietnamese Korean English Serbian Spanish Turkish Dutch	-	Design, implementation, and evaluation of technology-based English language learning tasks	11 weeks	Asynchronous	Padlet Google Docs	-
Gajek and Calderón-Quindós (2018)	36	Polish Spanish	B2 B1	Development of professional teaching skills, language and digital competences	-	Synchronous and asynchronous	Moodle	English Project Management Problem-solving skills
Waldman et al. (2019)	100	Hebrew Arabic Russian English German	B2–C2 B2–C1	Improvement of intercultural competence and digital and multimodal pedagogical competence	14 weeks	Synchronous and asynchronous	Flipgrid Padlet About.me Moodle	ICC Digital skills
Grau and Turula (2019)	42	Polish German	-	Development of linguistic and communicative skills, attitudes and beliefs, transfer of teaching	8 weeks	Asynchronous	Padlet Screencast-o-matic Video recording Facebook Google Hangouts Windows Movie Maker	Attitudes and beliefs Organizational competence
Martins and Werner (2019)	65	-	A2	Development of English and digital skills	8 weeks	Asynchronous	WhatsApp Skype Facetime Google Drive Edmondo	-
Fuchs (2019)	73	Chinese German	-	Technology use and task design	6 weeks	Synchronous and asynchronous	Facebook Skype WhatsApp Canvas Voicethread Vimeo Vialogues	-
Kurek and Müller-Hartmann (2019)	71	Polish German	-	Enhancement of students' pedagogical, digital, intercultural, English competence	13 weeks	Synchronous	Google Docs Zoom Weebly	-

Table A1. (*Continued*).

Study	Number of Participants	Participants' First Language	Participants' English Proficiency Level	Exchange Focus	Exchange Duration	Interaction Type	Technology Used	Skills Developed
Dugartsyrenova and Sardegna (2019)	28	Russian English Korean Taiwanese Latvian Canadian	B2–C1	Development of intercultural knowledge and skills	3 weeks	Asynchronous	Voxopop	English ICC Digital skills
O'Dowd et al. (2020)	39	Hebrew Spanish Swedish	B2–C2	Development of linguistic, intercultural, and digital competencies	6 weeks	Asynchronous	Moodle Google Docs WhatsApp	-
Üzüm et al. (2020)	48	Turkish English	-	Intercultural experience	6 weeks	Asynchronous	Edmondo	ICC
Dooly and Sadler (2020)	51	Spanish English	-	Transfer of knowledge and skills	10 weeks	Synchronous and asynchronous	Powtoon Skype	Pedagogical skills
Yang (2020)	32	English Spanish Vietnamese Korean	-	-	7 weeks	Asynchronous	Gmail Blogger	ICC Digital skills Pedagogical skills
Loranc-Paszylk et al. (2021)	16	English Polish	-	Reflection on teaching practice	6 weeks	Synchronous	Zoom	-