8. Developing an online course on virtual exchange for teachers: a reflection on the design and implementation

Angelos Konstantinidis[1]

Abstract

Virtual Exchanges (VEs) are flourishing yet there are still few courses in higher education that offer in-service teachers the fundamental theoretical and practical knowledge necessary to organize and conduct a telecollaborative project in their own educational settings. This paper aims to provide a resource to teacher educators and course designers who seek to design a course on VEs in higher or post-secondary education. Through reflective practice (Bolton, 2018) and adhering to the principles of educational design research (McKenney & Reeves, 2012), the process of design and development of an online master's course for language teachers is described. The article begins by describing the context and discussing the underlying rationale and principal course aims and learning outcomes, and the syllabus and assessment tasks are then reviewed. Course evaluation throughout the years is briefly reported as well as other outcomes. The results are positive overall both in terms of how students evaluated the course and the competences they acquired, although a couple of limitations are recognized. The study concludes with a reflection on the process of course design and the challenges faced.

Keywords: online course design, reflective practice, virtual exchange, educational design research.

1. Open University of Catalonia, Barcelona, Spain / University of Nottingham, Nottingham, United Kingdom; angelos.konstantinidis@nottingham.ac.uk; https://orcid.org/0000-0002-4342-4650

1. Introduction

VE (also known as telecollaboration) has been flourishing (O'Dowd, 2018), yet there are still only a limited amount of professional development courses in higher education for teachers interested in acquiring the fundamental theoretical and practical knowledge in the field. Apart from a few exceptions, the vast majority of the courses on VEs are offered at undergraduate level. In addition, studies in the field focus on issues associated with the VE per se rather than on topics related to the curriculum of the course, which makes the design of a course on VEs an even more challenging enterprise. Taking into account the variety of tasks and the diversity of challenges that teachers have to address in VEs (Helm, 2015) as well as the attitudes, skills, and knowledge they need to establish (O'Dowd, 2015), further training opportunities on VEs should be offered.

The present study will attempt to bridge this gap by providing a resource that focuses on the design of a course on VEs and discusses in a reflective way the underlying rationale.

2. Teacher training courses on VEs

The vast majority of the empirical studies in the field of VEs adopt an "experiential modeling approach" (Luo & Yang, 2018, p. 561) by involving undergraduate student-teachers in a VE project as students (Baroni et al., 2019; Rienties et al., 2020; Sadler & Dooly, 2016). The underlying rationale of this approach is that prospective teachers should experience themselves the processes and tools that they will use in their own classrooms and telecollaborative projects in the future (Ernest, Heiser, & Murphy, 2013).

While the experiential modeling approach is also adopted in the few studies that concern in-service teacher training on VEs, due to the different needs and competences of in-service teachers, alternative organizational schemes are established. These are briefly reviewed in the next paragraphs.

In a way that appears to be quite close to the experience of organizing a VE in the real-world, Whyte and Gijsen (2016) engaged two classes of language teachers who were attending a postgraduate blended-learning course in their respective institutions into a VE. The trainees were put into small intercultural teams and each team organized a VE project that involved team members' own classes. The results were mixed: some VE projects were more successful than others in terms of pupil satisfaction and task effectiveness, whereas in less successful projects trainees mentioned difficulties in coordination and a limited interest in VEs in general.

Hauck, Müller-Hartmann, Rienties, and Rogaten (2020) engaged two classes of teachers who were attending a masters training program in their respective institutions in a VE. During the exchange, trainees worked both locally with their classmates and online in intercultural teams on tasks related to the design and peer evaluation of VE activities. The study reported a substantial increase of the digital and pedagogical competence for the majority of the trainees, though not all of them benefited equally.

Without involving trainees of a fully online master's program in a VE, Vinagre (2017) focused on building their skills and knowledge on VEs through a series of collaborative tasks that included article reviewing, case-study analysis, and the design and hypothetical organization of a VE. The trainees were teachers with diverse professional backgrounds working in different countries, and had no previous experience in VEs. Although not all trainees succeeded in developing specific competences, the outcomes of the approach were overall positive, demonstrating that it has the potential to enable teachers to acquire the required competences for organizing VEs.

A similar approach, though not specifically focused on the development of competences on VEs, was followed in an online professional development program for academics by Rienties et al. (2013). Trainees worked independently and collaboratively on a range of assignments on topics related with web 2.0 educational applications, collaborative knowledge building, measuring knowledge and understanding, and supervising students in distance learning (Rienties et al., 2013). Although nearly half of the trainees dropped out, the

majority of those who successfully completed the program reported substantially higher pedagogical and technological competences.

# 3. Course design methodology

3.1. Context

The context of the study is the Telecollaboration in Language Learning (TLL), a twelve-week module in the online Master of Arts in Digital Technologies for Language Teaching (MA in DTLT) program, University of Nottingham. The TLL module has been delivered five times in total until now; it is elective and, on average, four students select it each year. Students in the course are experienced language teachers who work around the globe.

3.2. Course design and development process

The process of designing and developing the TLL course is based on the generic model for designing research in education by McKenney and Reeves (2012).

Figure 1. The model for conducting educational design research (McKenney & Reeves, 2012, p. 77)[2]
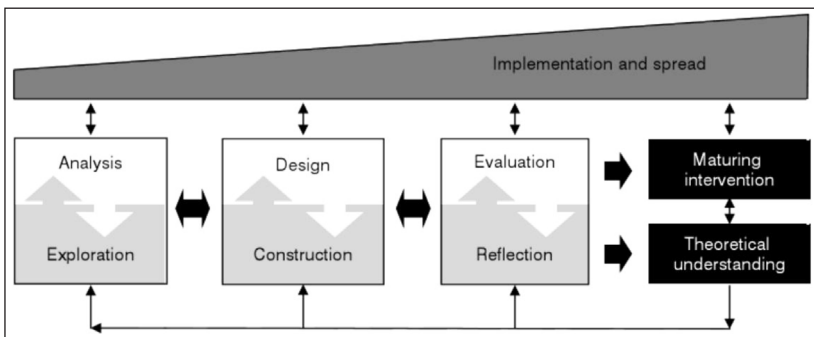
The model (Figure 1) comprises three core phases: analysis/exploration, design/construction, and evaluation/reflection. Bidirectional arrows between these phases indicate that the process is both iterative and flexible, while bidirectional arrows between each of these phases and implementation depict interaction with practice.

3.3.   Analysis and exploration

The context and the potential students were considered to specify the teaching aims and learning outcomes of the course. A research-based approach (Munthe & Rogne, 2015) was adopted for providing both theoretical and practical knowledge in the area of VEs, building up students' skills in organizing VE activities, and cultivating an inquisitive attitude in students toward teaching and learning.

After determining the overarching course aims and learning outcomes, an open-ended exploration started to gather material that would be part of the curriculum. Relative keywords (telecollaboration, VEs, tandem language learning, etc.) were used in journal databases as well as in web searches. Platforms that support VEs, such as UNI-Collaboration, iEARN, and eTwinning were thoroughly searched to discover material.

3.4.   Design and construction

First, a list was created with the potential topics that would comprise the syllabus. The potential topics were evaluated based on criteria related to importance for achieving the course goals. Next, a few ideas for the sequence of topics in the syllabus were generated and considered before selecting the ones which would be eventually put into practice. The design of the activities was based on the COMP-PLETE model, which identifies eight ingredients (community, openness, multimodality, participation, personalization, learning, experience, and technological enhancement) as fundamental to provide distance learners with a learning experience that is motivational and empowering (Goria & Konstantinidis, 2018).

The rationale behind COMP-PLETE is the attempt to address and resolve issues common to distance learning, such as the feeling of isolation, balanced workload, and the move toward 21st century open learning in an institution-based context. COMP-PLETE does so by leveraging the affordances of participatory pedagogies in motivating students and strengthening their commitment to the distance learning program. Table 1 presents a brief overview of the eight principles of the model.

Table 1.   The course design principles

Community	Tasks should support the development of an online Community of Inquiry.
Openness	Tasks should cultivate openness in teaching and learning.
Multimodality	Tasks should allow and encourage the use of multiple modes in students' work.
Participation	Tasks should encourage student participation in the assessment.
Personalization	Task design should cater to students' needs and preferences by allowing them to select from a variety of tasks.
Learning	Assessment should be aligned with the teaching aims and learning outcomes of the course and should serve a triple duty: formative, summative, and metacognitive.
Experience	Assessment should encourage students to bring their experience into the course.
Technological enhancement	Tasks should support students in both engaging with digital technologies and adopting a critical understanding of their role in learning.

3.5.   Evaluation and reflection

Four different sources of data are employed for the evaluation of the course: students' engagement with the course activities, students' final artifacts for the assignments, students' formal evaluation of the module, and, students' answers to open questions related to their overall course experience. Reflection is based on the outcomes of the evaluation (reflection-on-action) and creates new theoretical understanding about the design of the course.

4. Course design

4.1. Teaching aims and learning outcomes

Three overarching aims were set: to introduce students to the theories and practices of VEs through a critical and multicultural lens, to build up students' competences in organizing VE activities, and to engage students in research.

Initially, it was considered crucial that students would acquire a hands-on experience of organizing and conducting a VE activity in their own educational settings, yet soon I realized that not only is it particularly challenging for students to set up and conduct even a simple VE in such a short time frame, it is not always possible either due to institutional restrictions or other reasons. Therefore, it was considered more appropriate to change the focal point of the learning outcomes toward empowering students with knowledge and skills that are essential in VEs, yet without necessarily engaging them in the complete process of organizing and conducting a VE project.

4.2. Syllabus

The course syllabus is divided into three sections: the first section introduces students to VEs, the second deals with more practical issues in the organization of VE projects, while the third section presents a few additional topics on VEs.

4.3. Assignments and assessment

There are three assignments distributed evenly throughout the course. The first engages students in a collaborative analysis of an empirical study on VEs and a presentation of the results to their peers. In the second assignment, students work together to contribute a text to a Wikipedia article related to VE (see more details in the 'Course Evaluation' section) and then write a reflective essay about the online collaboration with their peers. For the third assignment, students can either design and conduct a VE project and reflect on its outcomes, or propose a topic related to their studies in the course and their professional context. The

design of the assignments is grounded on the principles of the COMP-PLETE model (Goria & Konstantinidis, 2018), as below.

- **Community**: the collaborative character of the first and the second assignment further cultivates the community in the course.

- **Openness**: all assignments are accompanied by rubrics, while exemplars are also offered. Additionally, the second assignment engages students in adding content into a Wikipedia article.

- **Multimodality**: students have to deliver a presentation to their peers for the first assignment; in the second assignment they have to connect their work with other Wikipedia pages; in the third assignment students can freely select the delivery mode.

- **Participation**: students can negotiate the assessment criteria with the tutor and they are engaged in a peer- and self-assessment process.

- **Personalization**: in the last assignment, students are free to select the topic and the mode of representation.

- **Learning**: the assignments are in alignment with the learning outcomes of the course and support the assessment's triple role (formative, summative, and metacognitive). The formative role is achieved by encouraging peer feedback as well as by providing tutor feedback in students' drafts before final submission, while there is also provision for providing purely formative tasks during the course. The second assignment builds students' metacognitive skills by engaging them in reflection about their learning in the first two assignments.

- **Experience**: assignments are distributed evenly throughout the course period, allowing adequate time for students to study and act upon the formative feedback toward improving their performance in the assignments that follow.

- **Technological enhancement**: students are encouraged to use their preferred digital tools for collaborating with their peers to develop the first two assignments and they have to reflect on how the selected digital tools might have facilitated or constrained their efforts for communication and working together as a group.

5.   Course evaluation

5.1.   Students' engagement with the course activities

In all five deliveries of the course, participating students showed an increased engagement with the assignments as demonstrated by an increased number of posts and questions about the assignments on the course forums. Nearly half of the students' products were evaluated as first class, one-third as second class, and one-fifth as third class.

5.2.   Students' final artifacts for the assignments

The high quality of students' assignments has two concrete outcomes for the wider educational community: the creation of an open educational resource with students' digital artifacts, as well as significant content enrichment of related Wikipedia articles. The open educational resource is hosted on a wiki (http://telecollaboration20.pbworks.com/) that lists students' digital artifacts on the course. Students' selected assignments are published on the wiki after requesting their consent. The wiki was initially created at the third delivery of the TLL module and since then it has been enriched yearly. The digital artifacts are grouped into categories for easier use and search. The wiki currently contains 25 digital artifacts, including articles that analyze VE projects and study reviews, video presentations on various topics, dissertations, online booklets, and self-reflections.

Until now, nearly 5,000 words in total have been added to the respective Wikipedia articles by the students. Table 2 shows the total number of words added to each

Wikipedia article, the total number of words that each of the articles currently have, and an estimation of the proportion of students' additions to each article. The estimated percentages do not accurately reflect the proportions of students' additions to each article, since over the years other users may have changed some bits of students' text. Nevertheless, it is still a measure that shows how significant students' contributions have been to the growth of each article.

Table 2. Students' contributions to Wikipedia

Wikipedia article	Total amount of words added by the students	Total words of the article (June 2019)	Percentage
Digital literacy	500	2,700	19%
Tandem language learning	1,700	1,900	89%
Telecollaboration	1,600	2,200	73%
VE	1,000	2,400	42%

5.3. Students' formal evaluation of the module

The course has been evaluated very positively by the students as regards the teaching and assessment methods. The student evaluation of the course is not obligatory and thus far two students (from the total 20 students who participated in the course) did not fill in the evaluation form. The vast majority of the respondents (N=16; 89%) agree or strongly agree that the teaching methods helped them to learn, while all respondents perceived that the assessment methods allowed them to demonstrate what they have learned and declared that they would recommend the course.

5.4. Students' answers to open questions related to their overall course experience

Lastly, two students (Sophia and Irene; pseudonyms) who participated in the last course delivery were requested to complete a short questionnaire with a few open questions as regards their overall experience on the course. Both students had no previous experience in VEs and they started the course with a few preoccupations. As Sophia stated: "I began the module deeply skeptical about

the utility of telecollaboration and consequently not particularly interested". However, they recognized the value and potential for VEs by attending the course. Irene's answer is indicative of this change: "in all the years I have been teaching, I had not heard of telecollaboration so, for me, this course opened up a whole new world".

In terms of the assessment design, it appears that the students had mixed feelings. Sophia recognized "the richness and variety of the assignments" as the greatest strength of the course because she "was given a chance to try alternative approaches to the classic essay assignment". However, she perceived that the collaborative assignments of the course did not work out well resulting in a "limited and stressful" personal experience of online collaboration among peers. Similarly, Irene perceived that the "experiential collaborative experience" she had helped her to acquire "a better insight into what [her] own students experience", yet, she too questioned the design of the collaborative assignments.

6.   Discussion

Six years ago, I set out to design an online course on VEs. The endeavor has been challenging from the beginning, yet through reflection I acquired a holistic understanding of the situation and I started thinking of ways to address the problem at hand. I dismissed the idea of organizing a VE project as part of the course and instead focused on ways that enable the acquisition of the knowledge base on VEs and cultivate digital, collaborative, and intercultural competences. I decided to adhere to the principles and processes of educational design research for the design of the course, as they offer a rigid yet flexible framework that can guide both the practice of and the inquiry into course design and development.

Throughout the whole procedure, my practice has been reflective (Bolton, 2018). I have been critically questioning the outcomes of the designed course as well as my attitudes and beliefs as regards what knowledge I deemed fundamental and how this knowledge could be acquired by others. I have been making efforts to comprehend the complex political, social, and cultural dynamics of the modern

world and to recognize my own share of responsibility for which *knowledge* is valued and what is considered *learning* by society. Enriching articles in Wikipedia and publishing students' work online are two of the most prominent ways that the course creates beneficial outcomes.

I have designed the course based on principles of the research-based teacher education approach, for I firmly believe that teachers should adopt an inquiring attitude to teaching and learning in order to prepare themselves as well as their students for the challenges of the digital and highly interconnected world. Hence, the syllabus comprises research articles in the field of VEs and one of the assignments requires students to critically review an empirical study. Thus, there is much emphasis on the research content and students are engaged in reading and writing research (Munthe & Rogne, 2015).

The course aims to nurture related competences, help the students acquire the knowledge base on VEs through studying the syllabus, and develop their organizational skills by collaborating with their peers. They are also offered the opportunity to acquire hands-on experience by devising or conducting their own VE project. Finally, the course activities cultivate attitudes and values related to online participation and collaboration, which are essential for teachers who are engaged with VEs. On the whole, the course outcomes are positive both in terms of how students evaluated the course and the competences they acquired, as demonstrated in their assignments.

7. Limitations

Although the results of the several evaluation methods are overall positive, the particular effects of the course on trainees' competences in VEs are not examined through, for instance, a pre-post survey as in recent studies on VE (Hauck et al., 2020; Rienties et al., 2020). In addition, the results should be approached with caution as participants in the course are probably competent learners and have, at least some, interest in the practice of VEs, since, after all, they are in-service teachers and the course is elective.

8.   Conclusion

How could an online course on VE be designed? In this article I tried to demonstrate the design procedure that I followed while also providing the underlying rationale and my reflections along the way. The process is far from being straightforward and there were several challenges that I had to address; however, after five deliveries of the course, it has been demonstrated that the course design approach discussed in this study can yield promising results. Although I do not purport to have a definite answer to the question above, this article can be a valuable resource for educators and instructional designers who wish to embark on a similar endeavor.

9.   Acknowledgments

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