

Intercultural Dialogue by Virtual Co-design

Tarja Kröger and Māra Urdziņa-Deruma

Future teachers must develop skills to ensure they are adequately equipped to participate fully in the intercultural society of the 21st century. These skills include knowing how to work together virtually. This study focuses on the online collaborative design and intercultural dialogue in the context of teacher education. It aims to determine how students from Finland and Latvia (n = 30) who had participated in the project “Textile dialogue” experienced intercultural dialogue by virtual co-design. A wiki platform was employed to promote students’ online collaborative design and intercultural dialogue. The main sources of data-driven qualitative content analysis are the reports obtained from Finnish and Latvian students. The results show that virtual co-design is a promising method with which to enhance intercultural dialogue. On a more general note, the study provides an example of how a wiki platform can be used for collaborative design within educational contexts.

Keywords: co-design, intercultural dialogue, intercultural learning, teacher education, wiki teaching and learning

Introduction

UNESCO (2014; 2013) report assumes that “learning to live together” occurs through the two complementary processes: the “discovery of others” and the “experience of shared purposes”. “Discovery of others” occurs through developing knowledge of other cultures, as well as skills of curiosity and openness. “Experience of shared purposes” occurs through communication and skills of interaction. These complementary learning processes lead to the development of empathy, cultural sensitivity, acceptance, communication skills, teamwork and leadership, among other intercultural competencies (UNESCO 2014, p. 6). Intercultural competences are abilities to perform “effectively and appropriately when interacting with others who are linguistically and culturally different from oneself” (Fantini & Tirmizi, 2006).

Dialogue is a form of communication “occurring when participants, having their own perspectives, yet recognize the existence of other, different perspectives, remaining open to learning about them” (UNESCO, 2013, p. 14). Dialogue is often linguistic but doing something together can be also a form of a dialogue. Dialogue requires both speaking (about one’s own ideas) and listening, but even more, dialogue entails “remaining in the tension between standing your own ground and being profoundly open to the other” (Pearce & Pearce, 2004, p. 46). According to UNESCO (2013, p. 14), intercultural dialogue is inclusive rather than exclusive; differences are treated as resources rather than barriers; conflict is handled collaboratively rather than adversarially; and decisions are made creatively rather than defensively.

Hill (2006) pointed out that cultural knowledge is an important component, but it is not sufficient for intercultural understanding. Positive attitudes, such as empathy, curiosity, and respect, are also necessary for intercultural understanding. Knowledge of another culture can lead to an appreciation of that culture, but the adoption of a positive attitude toward others does not stem from knowledge alone (Hill 2006.) A person’s affective response to intercultural difference can also be called *intercultural sensitivity* (Straffon 2003).

Intercultural dialogue is both learnable and teachable, for “to engage in dialogue is to engage in a learning conversation” (Spano, 2001, p. 269). This means that educators have to design learning experiences that help students to engage in intercultural dialogue.

Experience design is one of the most important research domains for educators. Learning experiences must help students to engage, compel, memorize, and enjoy the learning process (McLellan, 2000). Students’ total experience is the key to success (Seybold, 1998). According to Kolb’s (1984) mode of experiential learning, concrete learning experiences are essential for providing students with a basis for observation and reflection, and particularly for refining these observations and translating them into abstract concepts and across contexts.

The design of experiences is also emphasized in intercultural education. A vital question is: What kinds of experiences make students not only aware of intercultural issues, but also help them translate their knowledge into action? Some previous studies (Jokikokko, 2009; Mezirov, 2009; Taylor, 2009) have shown that emotionally powerful experiences play a significant role in the transformation process. The acquisition of traditional cultural values is more effective if the student looks for that which is important to them at that moment, and if the acquisition process is connected with creativity. It is a way in which a person makes traditional cultural values more important for their self, that is, determines their attitude and helps to create their value system (Visnola, 2001).

Building on the above-mentioned learning experiences, the project “Textile Dialogue” was developed to enhance intercultural learning. “Textile Dialogue” specifically refers to dialogues occurring between students of different cultural groups in the context of textile design. It encourages to bring creativity into play in order to find new shared understandings.

Online collaborative design

The term co-design, short for collaborative design, refers to collective creativity as it is applied across the entire span of a design process. Learning by collaborative design (Seitamaa-Hakkarainen, Viilo & Hakkarainen, 2010) is a pedagogical approach, in which students learn as a result of collaboratively engaging in design activities and reflecting appropriately on their experiences. The approach highlights the role of real-world phenomena and mediating objects and artefacts as a basis of the design and inquiry process. Learning by design has been shown to enhance problem-solving, decision making, and collaboration skills (Kolodner, Crismond, Gray, Holbrook, & Puntambekar, 1998). Moreover, this approach has especially influenced the way in which to enhance intercultural learning among students.

The social media, such as web-based forums, or wikis, provide opportunities for collaboration among diverse cultures. Wikis and other social networking tools have been widely used to support learning in educational settings (Alexander, 2006; Bonderup Dohn, 2009; Kang & Glassmann, 2011). In particular, there is great potential for their employment in collaborative learning (Biasutti 2011; Everett 2011; Ioannou, 2011; Kump, Moskaliuk, Dennerlein, & Ley, 2013; Larusson & Alterman, 2009; Naismith, Lee, & Pilkington, 2011; Wheeler, Yeomans, & Wheeler, 2008). Wikis offer appropriate environments within which students that are geographically separated from one another can share knowledge and design together. They enable students to collaboratively generate, mix, edit, and synthesize subject-specific knowledge within a shared and openly accessible digital space.

Deliberate design of the structure of events that facilitate intercultural dialogue, as well as careful design of the process by which students participate in the dialogue, are both significant (UNESCO 2013, p. 30).

Project Description

The main purpose of the project was to enhance intercultural learning experiences for students majoring in education and textiles through virtual co-design. We organized the project together with the University of Latvia, the University of Flensburg, Germany, and the University of Eastern Finland. The participants consisted of 17 Finnish students, 13 Latvian students, and four German students. A total of 34 students majoring in education and textiles participated in this 2-month project, in which they co-designed patterns for textiles in small groups. Finnish students were third and fourth year students, and the project was part of their advanced studies. Latvian students were 1-4 year students. The project was compulsory for three Latvian students and obligatory for ten students. Four German students took also part in the project as volunteers. They did not return essays for the research.

We launched the wiki platform for the project. Using this platform, students could join together to edit the page contents of the same project in real-time. Students were randomly assigned to small groups of two or three students from different countries. There were 15 groups. Each group possessed a collective folder, in which group members created and edited material, in the wiki. A folder included templates for different phases (Figure 1) which we created in advance. Each team member in a given group worked collaboratively toward the final product. In addition, each group could browse the other groups' folders.

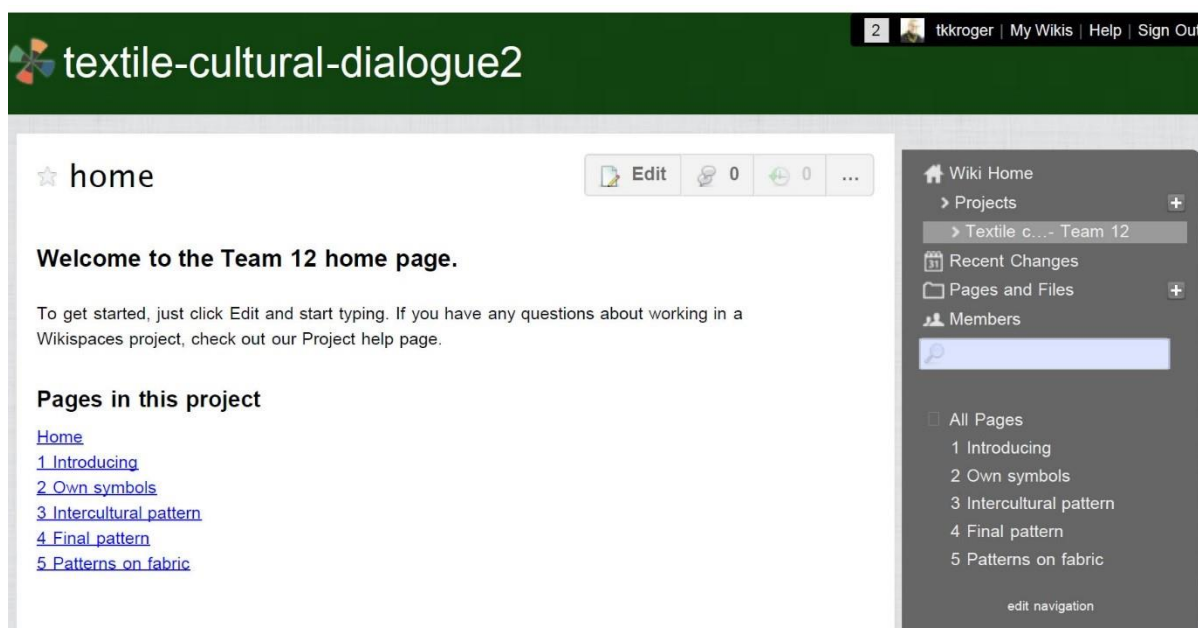


Figure 1: Screen shot of the WikiSpaces platform.

A 2-month wiki activity period occurred during the spring semester of 2013, following the pilot project, which we had organized a year before, during the spring semester of 2012. The pilot project provided valuable experience that helped to modify and create a more useful wiki platform.

In the project, the students were tasked with designing an intercultural pattern together. Co-design does not mean moving from multiplicity to homogeneity, but is rather a process of establishing continuity in diversity. Students can all agree they are designing a symbol to craft together, but the created symbol is not actually one; they attach different meanings to the symbols, and they use them differently, for different purposes. Despite different interpretations, the symbols are sufficiently similar to serve as a means of working together, communicating and understanding each other.

The project was composed of eight stages:

- 1) 1st week: Orientation to the project and forming teams
- 2) 2nd week: Introducing yourself to the team
- 3) 3rd week: Presenting two symbols of your cultural environment
- 4) 4th week: Starting to design an intercultural pattern
- 5) 5th week: Designing and discussion of the digital intercultural pattern
- 6) 6th week: Finishing a pattern and holding a discussion regarding the final meaning of the pattern
- 7) 7th week: Applying a pattern to a fabric
- 8) 8th week: Finishing, displaying, and writing a reflective essay about the project

The timetable was organized flexible so that there is a whole week for every stage. Synchronous timetable planning was difficult because partner universities have different semester schedules.

Lecturers in each country orientated their students to the project, rules, timetable, and wiki environment, and invited them into the wiki. The students were organized into teams after they had signed into the wiki. When the list of teams and members was published, the students began working in the wiki.

The students worked in the wiki for approximately six weeks. Students in Finland and Latvia also had contact meetings with lecturers, at which times they could discuss the project, and ask for help with it, if necessary. Students from Germany worked independently, and did not have meetings with their lecturer. After the sixth week, lectures and workshops were held in Finland and in Latvia; Latvian lecturers came to Finland and held a lecture and workshop, and *vice versa*. After applying a pattern to fabric, the Finnish and Latvian students wrote reflective essays about the project.

Here is an example of the process, as experienced by two students. Minna from Finland and Linda from Latvia introduced themselves by stating where they are from and what kind of hobbies they have. They attached photos to the wiki, which helped them to become familiar with one another. They then presented two symbols from their own cultural background. Linda presented a Latvian decoration called a puzuri, and a Latvian traditional cornflower, while Minna presented a Hattivatti character from the Finnish Moomin cartoon, and a photo of the Northern Lights. Both students gave some background information around why these symbols are important to them. The purpose of this was for the students to learn about symbols from their own country and those of other cultures. Minna and Linda then chose two symbols for co-design; a puzuri and the Northern Lights. Minna made the first suggestion for the pattern and Linda continued to modify it. Altogether, they made 15 different edits, which included 25 different versions (pictures) of the co-design pattern. They discussed visual variables, such as colors, shapes, technical difficulties, and new meanings of symbols. They chose a final pattern (Figure 2) and named it “windows to the lights”. They also discussed the final meaning of the pattern.

I really liked your idea about movement in our chosen symbols and trying to express it in the pattern. And I think that we have this kind of moving effect in the final pattern. This idea of movement I think helped us to start making patterns, it was like a guideline. Also, in the final pattern you can still find something from our symbols. From your symbol Northern Lights you can see these beautiful colors and how they change into another. This color change looks like movement. From my symbol ornament puzuri you can see these different shapes, which together makes an ornament. (Linda)

This pattern is a great combination of our symbols, our design and cultures. Movement as a conjunctive thing between our symbols was a great idea from our group. With it, it was easier to start to design this pattern, when we tried to express the movement in a visual way. It was like a guideline, like you said. We designed a shape that makes a kinetic effect and the colors seem to move too. These ideas worked

together so well that it was easy to come up with the final pattern. It is interesting to see how modern and harmonic this pattern became, when the starting point was very different. (Minna)

Minna applied a pattern to a window decoration by embroidery (Figure 3), while Linda used felting and embroidery for her work (Figure 4).

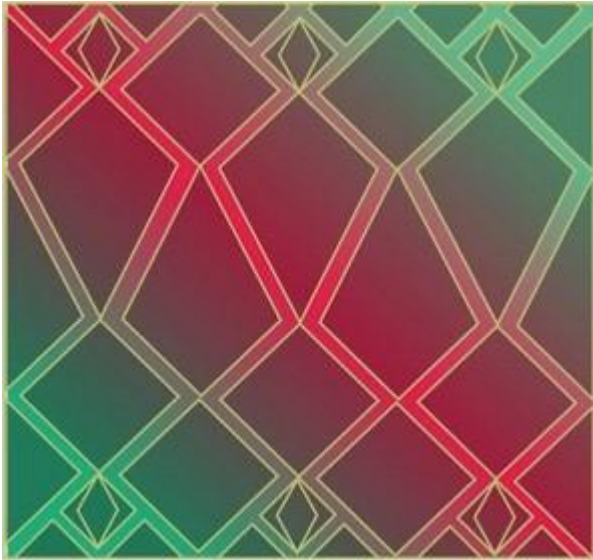


Figure 2: Window to the light



Figure 3: Minna's experiments regarding applying a pattern to textiles



Figure 4: Linda's experiments regarding applying a pattern to textiles

Research Problem and Method

In the present study, we attempted to deepen the understanding of virtual co-design as a tool for intercultural dialogue. The research questions was: What characterizes the students' learning experiences in intercultural dialogue by virtual co-design?

We chose a qualitative case study design because this is useful in understanding the students' outcomes, and in improving their academic education. Case studies involve an intensive process of research data collection (Merriam, 1998).

The total number of participants was 34, composed of 17 students from Finland, 13 from Latvia, and four from Germany. We collected the research data by exploring online behavior of 34 participants, as demonstrated in each group's wiki folder. We asked Finnish (17) and Latvian (13) students to submit a self-reflective essay that expressed their overall process and learning experiences in a virtual environment. We included the following questions to help the students to reflect subjectively on the project:

- What kind of preconceptions did you have about the project before starting?
- What did you learn about symbols of your own culture and others' culture?
- What did you learn about the design process and co-operation?
- What kind of problems did you have during the project and when? How did you solve them?
- How did you promote/encourage/boost/foster your process and co-operation?
- What was the mood like in your cooperation? Did it change during the process? If so, how?
- Did your different cultural backgrounds affect the process, co-operation, and final pattern? If so, how?
- Would you like to apply some ideas from the project to your work in school?
- What was your most significant experience(s) during the project?

We employed activity analysis of online behavior and data-driven qualitative content analysis (Mayring, 2000) of reflective essays. We analysed the data from the essays completed by the Finnish and Latvian students, and repeatedly read the texts, in order to determine the distinct ways in which the students described their learning experiences. In addition to differences in forms of expression, we also paid attention to similarities. The categories resulting from the analysis cover the entire variation of the different ways in which the students described their subjective learning outcomes.

Our role in this qualitative case study was that of an insider-researcher. Insider-researchers are those who choose to study a group to which they belong. They interact and collaborate with the participants, and gather data by themselves (Unluer, 2012). There are both advantages and disadvantages to being an insider-researcher. As an insider, it is easy to determine the case, to enter the research site, to define the researcher's role to participants and to access data. Conversely, an insider researcher may encounter some problematic situations in considering the ethical issues. We had to be careful not to give impression that the students were being tested when they wrote their reflective essays. In order to do this, we emphasized to them that the question was not to test, but to understand their learning experiences around the subject.

Results

Activity Analysis

During project development, online observations followed the development of each group's folder in the wiki platform (table 1). During the first 2 weeks in wiki, each team appeared to focus on preparation for the project. Everyone introduced themselves, and presented symbols of their cultural background, almost on time. There are differences between how active the students were in co-design, and the activity of team members was fairly balanced in many (10) teams. In six teams (1, 2, 5, 9, 13 and 15), one of the team members was rather passive (two or fewer edits). Some students gave explanations for their absence from the wiki.

Hey, girls! I am really sorry for being absent! I had a lot of other things to do and somehow this project left my mind. (L5)

Hello! I'm sorry that I have not sent ideas because I'm very busy! I like your ideas! (L13)

Table 1: Activity of teams

Team (members)	Amount of edits on wiki pages				
	Introduction	Presenting own symbols	Co-design	Discussion of a final pattern	Applying a pattern to fabric
1 (F,L,G)	1+1+1	1+1+1	8+0+8	1+0+0	1+0+0
2 (F,F,G)	1+1+1	1+1+1	13+2+15	1+1+1	2+2+7
3 (F,L)	1+1	2+1	7+6	1+3	1+0
4 (F,L)	1+1	1+1	8+4	1+0	1+0
5 (F,L,G)	1+1+1	1+1+1	7+1+11	3+3+9	1+0+1
6 (F,L)	1+1	1+1	7+8	2+2	2+2
7 (F,L)	1+1	2+1	8+3	8+3	1+1
8 (F,L)	1+1	1+1	7+4	1+0	1+1
9 (F,L)	1+1	2+1	7+1	1+0	2+0
10 (F,L)	1+1	1+1	6+6	2+1	1+1
11 (F,F,L)	1+1+1	1+1+1	9+8+4	2+1+3	1+1+1
12 (F,L)	1+1	1+1	8+7	2+1	2+2
13 (F,L)	1+1	1+1	7+1	1+0	1+0
14 (F,L)	1+1	2+1	7+7	1+0	2+1
15 (F,G)	1+1	2+2	2+3	0+2	0+0

F = Finnish student, L = Latvian student, G = German student

With regard to Latvian students, those who were part-time (L13, L1) did not much engage in the project. They were very busy because of their other studies, work, family, and children. Other passive students (L5, L9, F15, F2) also mentioned a similar reason; shortage of time.

Analysis of reflective essays

In the analysis of essays, we examined Finnish and Latvian students' experiences that appeared in the data, and three different aspects emerged: A cognitive aspect (knowledge acquiring and processing), an affective aspect (feelings, atmosphere, and attitudes), and an interactive aspect (co-operation and communication). The following provides an overview of the students' perceptions of the various experiences. Direct quotations from students are in italics.

The cognitive aspect refers to acquiring and processing content knowledge, that is, knowing about symbols, culture, co-design, and collaborative tools (such as WikiSpaces) and designing tools (e.g., Photoshop).

There were descriptions of experiences in which students said that they valued the information they had learned from symbols of other cultures and their own culture.

My theme members' symbols aroused the interest and gave rise to further studies. Melanie told me a little of her hometown's history and a symbol, which inspired me to look for information about Augsburg. When we selected an oak leaf for co-design it led me to investigate the oak tree in the various national mythologies. At the same time, I recounted the Kalevala, a story about a big large oak. (F5)

Students' experiences are connected to previous knowledge of the cultures. Three Latvian students (L3, L5, L11) had already participated in a pilot project, and two of these (L5, L11) had come into deeper contact with Finnish culture, when studying in Finland for a year. In addition, some had previous knowledge of the chosen symbols.

I had got acquainted with the works of Marimekko before, and the symbol of the morning star was known to Matilda, too. (L14)

The students who had some previous knowledge of their partners' culture and symbols were active from the very beginning. In her essay, one Latvian student (L14) reflected that it is important to choose symbols that are interesting to yourself and to your partners in the project. This is connected to the knowledge of the similarities and differences between cultures and individuals.

As well as the Finnish, the Latvian and German symbols seemed to have a lot of similarities, but also differences. It was nice to see that most students had chosen symbols with care and thought. Everyone seemed to have a personal significance to symbols, and this was perhaps one of the biggest motivators to move forward with the project. (F13)

At the end of the project, Finnish lecturers gave a lecture and workshop in Latvia and *vice versa*. In her essay, one student (L6) emphasized that she had obtained new information about Finnish signs and symbols in textiles, not only through contact with the students, but also during the lecture and workshop given by Finnish lecturers. The lecture and workshop also appeared to provide a significant learning experience for Finnish students.

The lecturers' visit from Latvia was a rewarding experience. It would be great if we students could also visit Latvia during the course. (F6)

The importance of learning about the design process and co-design was highlighted in several of the essays examined.

The most significant learning experience is related to the design process. I realized something about a design process and how to influence it. Others' ideas and especially visual proposals can make wonders in the design process. Co-design can help people to see things from a different perspective. When I followed other teams' working I also realized that it's very important that every team member is involved in the project. (F9)

When making a design it is more creative to do it in pairs, and there are more possibilities than if it is done individually because the other may suggest an idea you had had no notion of before. Differences in the experience of cultures and mentalities afford greater possibilities of variation, to approach things more creatively, because experiences of two cultures are put together, and supplement one another in order to come to a successful result in the work. (L6)

The cognitive aspect also includes descriptions of learning to use tools such as Photoshop and WikiSpaces. The students who had a passive team member in their group tended to focus on tools.

To me, the most significant experience was learning to use Photoshop. I haven't really drawn anything on my computer for a year or so - and even then I didn't use Photoshop, so this project was a good opportunity for me to brush up my skills with my drawing tables. This was also my first time doing a co-

operative project with someone from a different country through the internet. All previous multicultural projects I have been part of have been done face-to-face. The Internet has been reserved for communicating with friends from different countries for my leisure, not for studies. I found this change in mundane routine refreshing and fun. (F3)

It was especially great that I learned to use a wiki learning environment during this project. We had a small wiki experiment during the ICT course, but nothing was left to my imagination. This project, however, was much more concrete and more personal, so the wiki environment has become really familiar and now I understand its operation and its usefulness. I think this project was really good and instructive. (F13)

In addition, the role of the craft as a tool for intercultural communication was highlighted in some essays.

Now I have a new scarf with a pattern which has a meaning. It tells about a culture that adapts over time. The project opened up the possibility of seeing craft as working as a tool for intercultural communication. Crafts are, in my opinion, a very natural way to explore cultures. (F11)

The affective aspect refers to descriptions about feelings, attitudes, and atmosphere in the essays. The affective aspect was connected to knowing group members and feelings about similarities and differences.

The importance of getting to know group members was highlighted in many essays. Some of the students mentioned that to realize that you can work together, even though you have never met, was a significant experience. However, some students described how they did not get to know their team members well enough.

Even though we had not met face-to-face, we got to know each other during the project. When we got to know each other it was easier to reveal your own ideas and follow others' ideas. (F3)

It was nice to realize that ICT makes possible collaboration with students from different countries. All you need is a computer, and an Internet connection, as well as the time and the will to encounter another. (F5)

I think that team members should have got to know each other better, so that they committed to the project better. Team members should have become somehow more real, concrete to each other. They would have better understood that they are responsible for their own learning, but also that someone else's studies are connected to it. In addition, team members should have agreed together on rules of how to proceed with the project. (F9)

The students also gave descriptions of how similarities helped them to continue, and how differences were not a problem.

Our co-design was surprisingly easy. I think we worked quite similarly; we progressed in short order without staying on small details for a long time. (F7)

It was great to notice that cultural differences were not a problem, but it helped to learn to see things from a different point of view. Our cultural backgrounds can be seen in the end results, but also our personal likings. (F10)

Most students reported feeling positive about the project in the end. However, they stated that they had been nervous or had had some misgivings at the beginning of the project. They were afraid of communication in English, misunderstandings, and working with PhotoShop.

My first feelings about the project were very tense. I was horrified about the idea that I would have to communicate in English in a wiki environment. I was nervous about using English. I was surprised,

however, as the course progressed, the fear and the horror disappeared little by little. I was particularly helped by the fact that I could write at my own pace in the wiki environment. (F13)

At the beginning of the project I had different notions, prejudices, which radically changed during the realization of the project, for example, at the beginning of the project I thought that I would gain nothing from participation, I considered that it would not give me any pleasure. (L10)

The groups in which all students were equally involved appeared to enjoy themselves. The atmosphere was described as open and supportive. There were also contrasting experiences for some students, in that at the beginning, the project was perceived with great expectations, but, later on, interest decreased, because their partner was not particularly active.

The beginning (getting acquainted) was promising. The next steps, for example, waiting for new information to be put in was too long. Then there arose certain indifference to the project. If my partner had placed her ornament patterns and the finished work more quickly, the final result of my work would have been much more different. (L4)

Experiences of the **interactive aspect** were connected to the experiences of cooperation and communication. The descriptions of successful cooperation included experiences of the importance of reciprocity and commitment.

Both were equally active in the task. Neither of us had to wait for the other one, nor work alone. When the process progressed, I realized that we formed our own capabilities in supporting roles; I modified the pattern and my partner did good color design. (F14)

The most significant thing about the project was the perfection of our cooperation skills and mutual communication. I had not had such an experience before. The cooperation was successful because all three of us were equally active, motivated to accomplish everything in time. All of us had a sense of responsibility. We agreed by which date it was to be done, and we stuck to the plan. All of us wrote comments on our work and that of others, then we democratically agreed upon the most successful result. (L3)

Ideas about successful communication included considering others' opinions, sharing ideas and visions, and helping each other.

It has been a good experience to learn to take into account the others' views and preferences during this kind of co-design. You have to feel free to give your own opinion. You also have to boldly dare to make changes in the design the other has done, and to rely on that person allowing it. You just have to rely on the process and accept that there are two or three people who can modify a design. This fact made the design interesting, and I think it was a remarkable experience for the entire project! (F10)

To co-operate successfully, I think it is important to respect each other's ideas and keep an open mind, so all the members of the group feel welcomed and needed. (L5)

In order to diminish the other participant's anxiety about her lack of skills in working with complicated programs or her dislike of them, I tried to encourage her to insert the sketches drawn by herself. (L7)

The significance of feedback in the communication process was also mentioned in many essays.

I realized how important it is to be proactive. If you just wait for the other to do something, the process does not proceed. Quick answers would also contribute to the work. Whenever your team member has done something it's important to give feedback as soon as possible. A positive attitude and encouragement is also important. (F6)

Students who felt that communication in the wiki was not so successful indicated that these experiences were also important, because they had to find solutions to allow them to continue. Some

students stated that although communication in their wiki team was passive, it was rewarding to follow the work of other groups. Other students also reflected that it would have been good if there had been so-called support groups.

At times I followed enviously the cooperation in other groups. I admit I could have worked better. I should have been more active and felt free to ask more. It was good that I could follow the progress of the other teams. I have learnt from the others' processes. (F4)

It would be nice if there were a support group for each team. That way one would not be left completely alone if other(s) of the pair/in the team is/are not taking part in the design process. A support group would also bring new ideas and points of view to the design process, thus make it more inspiring for all the participants. (F1)

Contact meetings with local students were highlighted in some essays, especially when communication in the wiki was not successful. Students asked for help from their student friends and encouraged their group mates.

My partner started rather actively, but then disappeared. I tried to ask her opinions and thoughts, and to be supportive and positive. I got frustrated because I did not get any feedback, so I asked my student friends to comment on the design. They gave me good ideas and feedback, so I could continue the design, even though my team member was absent. (F13)

I did not have great experience of using computer programs. However, after a discussion with other Latvian members of the project, and an exchange of experience of where and how to better make such a design, I could start making my design. (L12)

The significance of synchronous communication was highlighted in some essays.

A good solution would be to make an agreement among all the group members that we would do all the necessary work until a certain time and set up a meeting online. (L5)

It would have been good if we had some fixed times for synchronous communication, for example using Messenger. These times should be compulsory so that everybody has to be active at least at these fixed times. (F13)

Discussion

The current study tried to understand nature of experiences in intercultural dialogue by virtual co-design. The results provide clues to the fact that experiences has at least three aspects: cognitive, affective, and interactive. These aspects can be approximately equated to domains of intercultural competence (see e.g., Chen and Starosta, 1998; Lustig and Koester, 2006; Bennett, 2008). Thus, textile dialogue may constitute a very relevant tool to engage students into intercultural dialogue.

The cognitive aspect concerns obtaining knowledge of one's own culture, as well as that of others. It also includes knowledge of the similarities and differences between cultures. The knowledge exchanges about symbols were particularly useful for making students aware of how aspects of the target culture are perceived within the culture itself, and what are the significant symbols in the target culture's 'national memory'. Here, co-design can be viewed as a knowledge-transforming device. Co-design creates the possibility of looking at oneself through the eyes of other worlds. Boland and Tenkasi (1995) called this *perspective taking*.

Hill (2006) reminded us that it is important to go deeper than the superficial, easily recognizable characteristics of a particular culture. Students should be encouraged to compare variability across a number of cultures, for example, between individualism and collectivism: the extent to which a society is structured around a group mentality or each person acting individually. In the present study, the

knowledge exchanges can be seen on the wiki pages but the students' descriptions of cultural knowledge given in the essays were very general. Therefore, future research should consider this issue; one possible suggestion is to use an interview as a research method. We should also encourage students to discuss and reflect on their experiences of the knowledge exchange process in wiki.

The second aspect, the affective aspect is about accepting, respecting, and appreciating others through cultural symbols that have personal meanings for individuals. In the present study, there are many experience descriptions where affective aspect of intercultural dialogue can be seen. The groups in which all students were equally involved appeared to have positive affective experiences, which are important because emotions focus attention, which then enhances intrinsic motivation (Csikszentmihalyi, 1997). A good knowledge of English and computer aided design also seem to support positive affective experiences. Furthermore, students with positive affective experiences are willing to apply intercultural learning at school.

The third aspect, the interactive aspect is concerned with experiences of the capability to interact effectively and appropriately with people from other cultures. Here, it includes experiences of cultural symbols and co-design as a tool for communication. It appears that wiki could provide a physical layout that allows participants to be, and to communicate to a certain degree. However, a more successful cooperation in co-design develops if the students possess good skills in the use of computer programs and English language, and if all the members of the group are equally active. While some students perceived the co-design in the wiki to be a good experience, others felt that communication was not successful. It appears that the passiveness of some students is a significant factor in experiences. Those who expressed negative comments were passive, or their partner was passive. The students that were active, although their partner was passive, benefited from peer feedback. Although instruction for online peer feedback was provided to students, their online performance was poor. Students preferred to reflect on their experiences with the support of their classmates in contact classes.

Indeed, some studies (see e.g. Kitchen & McDougal 1999) have shown that students are frustrated by the lack of face-to-face interaction. For Weber (2003; 2005), who introduced an intercultural encountering model, intercultural learning and development is a collective activity, whereby face-to-face encounters are important. The importance of face-to-face encounters can also be observed in the present study. Students reported that they needed a face-to-face meeting, whereby they could obtain meaningful peer comments and guidance from the instructor.

The present research is exploratory, and the report is an initial analysis. Therefore, caution and prudence apply, and it is necessary to contrast the findings with others cases. To move forward, both further empirical research and conceptual development are required to interpret how virtual co-design works as a learning tool in intercultural learning. It is also important to collect further data by conducting interviews about experiences.

Conclusions

The findings of the present study showed that co-design in wiki is a promising method of enhancing intercultural dialogue. It can be a positively significant experience when it is reciprocal, mutually active, open, and understanding. However, students may feel frustrated by passiveness and asynchronous working if waiting times are too long. In future, we should emphasize more on planning timetable so that there will be sufficient time for students to carry out all the steps in the process. This is difficult because universities have different semester schedules.

Although some students expressed concerns regarding a lack of communication, the learning effectiveness resulting from face-to-face meetings can surmount those uncomfortable feelings. The wiki platform created in this project provides a learning context for collaborative learning and dialogue, but face-to-face sessions are required to support instructional scaffolding. Students should also be encouraged to organize synchronic net meetings for discussing and making agreements for rules and timetables. Asynchronous peer tutoring and peer feedback could be used for supporting conscious reflection and motivation.

In summary, dialogue by virtual co-design could be used as a tool through which a teacher can provide opportunities for researching information, extending awareness and knowledge, deepening understanding, and making comparisons and contrasts of differences and similarities between cultures in positive ways, without stereotyping or making judgments, as well as practicing symbols to craft, and seeing that craft connects people.

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Tarja Kröger is Senior Lecturer of Craft Education at the University of Joensuu. Her background includes PhD in education. Her research interests focus on interculturalism and virtuality in craft education.

Māra Urdziņa-Deruma is University Docent of Textile and Art Education at the University of Latvia. Her background includes Dr. in education. Her research interests focus on textile education.