

Reflections on creating an international virtual benchmarking model for authentic e-learning: Crossing boundaries and breaking down barriers

Irja Leppisaari
Central Ostrobothnia University of Applied Sciences, Finland
irja.leppisaari@cou.fi

Leena Vainio
HAMK University of Applied Sciences, Finland
leena.vainio@hamk.fi

Jan Herrington
Murdoch University, Australia
j.herrington@murdoch.edu.au

Yeonwook Im
Hanyang Cyber University, Korea (South)
yeonwook@empal.com

Abstract: International virtual teamwork offers new opportunities for the professional development of teachers. In this paper, we examine the initial experiences in an ongoing international virtual benchmarking project coordinated by the Finnish Online University of Applied Sciences. What challenges does an international context present for project construction and collaboration? Data from five countries, in the form of participant reflections and researchers' observations, were analysed according to four types of barriers: language, time, technical and mental barriers. Initial data indicates that trust is an essential starting point, as there is neither time nor possibilities to build mutual trust by traditional means. Organisational confidentiality issues, however, can complicate the situation. The project introduces 'collision' as a method of professional development, in which not only physical and organisational borders are crossed, but also mental barriers, as skills and competencies needed in global learning environments are acquired.

Background

Educational organisations are expected to operate and develop teaching more internationally today. In Finland, the Higher Education Internationalisation Strategy (HE-Internationalisation, 2009) emphasises increasing international studies and connections in line with OECD policies (see Marginson, & van der Wende, 2008). Internationality is one central element of educational development and is examined as a factor in the quality and outcomes of educational organisations. According to the National Innovation Strategy (FIS, 2008) Finland's inclusion and position in global skill and value networks requires active participation and influence as well as international mobility and attractiveness. In a borderless world, know-how is sought elsewhere (FIS 2008).

International and global dimensions are strongly linked to constructing an innovative learning environment. In Korea, the concepts and policies of international education in a higher level is focused on strengthening the nation's international competitiveness (Kim, 2008). Many higher education institutes want to educate students to acquire global perspectives and various abilities to work internationally. This International education enables universities to invite excellent students and to increase income (Korean Ministry of Education, Science and Technology, 2006). Most universities have English as a required course. The trial for international education by higher educational institutes includes several types: degree level, program level, curriculum level. For example, a dual degree system is becoming popular among universities, where students take half of the total credits in Korea and the remainder abroad. Some also provide international courses by foreign professors offline or online. The most prevalent examples of international education can be found in the non-degree programs. Virtual classes have great potential to involve international education in that international experts can be invited to develop curriculum in an efficient and cost-effective manner.

Similarly, in Australia, much attention is placed on the role of education in exploring and developing connections across a diverse range of cultures and systems, to promote cooperation that benefits international collaborations. This

broader understanding of other cultures is encouraged so that students can reflect upon their role in a connected world, and to assess the benefits of international cooperation. The mobility of people in the world today is recognised as an important driver in internationalisation, as is the ready availability of technology to provide increasingly seamless communication at a distance (IHEPP, 2003). With large numbers of international students, Australian universities are anxious to provide quality assurance in international programs for both onshore and offshore programs (Stella & Liston, 2008).

Labour markets provide the internationalisation impetus for education. Global experts skilled in internationalism and understanding across cultures are needed in today's workplaces (Vartiainen, Hakonen, Koivisto, Mannonen, Nieminen, Ruohomäki & Vartola, 2007; FIS, 2008). EU strategies encourage teacher mobility (see CEP, 2005). Mobility projects for teachers should be facilitated and promoted as an integral part of continuous professional development (CDP) programs. These programs should also ensure teachers have the knowledge and experience of European cooperation to enable them to value and respect cultural diversity and educate learners to become EU citizens and globally responsible.

Internationalisation is physical, it is working abroad, but in our increasingly global world, knowledge based society and workplaces it is also increasingly virtual internationality. Collaborative technologies make virtualisation possible (Qureshi & Zigurs, 2001; Lewis & Allan, 2005). In educational institutions, traditional international face-to-face exchanges are authentic learning situations. Not everyone, however, is able to participate in an exchange, and cooperation should be made possible by virtual methods. Even in work, internationality is not necessarily physical, but increasingly virtual cooperation and interactive activity. The difficulty with physical internationality and exchanges in an educational context is often lack of resources and time. A further challenge in educational internationality is to find means of cooperation that support sustainable development (Im & Bautista, 2009; Leppisaari, 2009).

Virtuality in the various dimensions of international mobility brings new opportunities and challenges important for a teacher to recognise. International cooperation in education, including virtual, enables a cooperative production and sharing of knowledge and its mobility, as well as learner and teacher mobility, across borders. It enables a uniform, global development of educational quality and the growth of reciprocal understanding. On the other hand, quality of provision, language questions and inclusion of national educational policies may become challenges (Cross-border, 2007). In a global world, uniform quality assurance and tools as well as work models for its implementation are needed (cf. Lee, Leppisaari & Im, 2009).

Virtual teamwork has rapidly become more common as labour markets internationalise. Could virtual teamwork be applied in education? Why is it not as natural in education as it is at work? In a borderless world the significance of virtual communities and electronic interaction grows rapidly as models fostering interaction and continuous education of teachers in the workplace are sought, and innovative learning environments are created (cf. FIS, 2008). The FINHHEC evaluation report (Leppisaari, Ihanainen, Nevgi, A, Taskila, Tuominen & Saari, 2008) indicates a need to combine authenticity and internationality in education development. How can ICT be deployed in a borderless world in the construction of international networks, in learning in networks, in reciprocal learning, in utilising the skills of others and in the combining of different competencies? How can authentic situations in teachers' authentic internationality studies and opportunities to acquire experience in international teamwork be built into education? In this paper, we examine the ongoing International Virtual Benchmarking (IVBM) project being implemented in 2009 by the Finnish Online University of Applied Sciences (FOUAS) in which professional development (PD) of teachers is supported by a virtual benchmarking method. This project forms an international virtual community.

Virtual learning communities

While studies on virtual teams, especially comparative studies on traditional and virtual teams exist (see Powell et al., 2004), these teams have mainly been studied in business contexts. There has been less research into how virtual teamwork can be applied in educational contexts and its special features in these contexts. The teething problems we encountered in the IVBM model convince us of the necessity to consider how observations and models in studies on virtual teams can be applied in pedagogic contexts. An examination of the theoretical basis establishes a foundation for implementation and analysis of the IVBM project, for understanding the problems encountered and learning from them, and it also creates a wider understanding of international virtual teamwork as a model for CPD of teachers.

Powell, Piccoli and Ives (2004) define virtual teams as groups of geographically, organisationally and/or time dispersed workers brought together by information and telecommunication technologies to accomplish one or more

organisational tasks. Supported by ever advancing communication technologies, virtual teams are able to largely transcend time and space, connecting people across disciplines, functions, geographies, and organisations, combining their individual skills in order to temporarily work together and accomplish a project or goal (Peters & Manz, 2007). Virtual teams are often assembled in response to specific needs and are sometimes short lived (Chaese, 1999 in Powell et al, 2004). It is essential that virtual team members need to be more adept at working with individuals from cultures and backgrounds that differ from their own. Boundary-less virtual team environments create a more complex and ambiguous playing field for its members (Peters & Manz, 2007).

In an educational and teacher PD context, virtual teams can be examined as virtual professional learning communities (see Lewis & Allan, 2005; Leppisaari, Mahlamäki-Kultanen & Vainio, 2009). The application of *virtual learning communities* (Lewis & Allan 2005) can be considered a common theoretical framework in our study context. According to Lewis and Allan (2005), features of learning communities are, for example, a shared goal and project, shared resources, commitment to improvement of professional practice, learning and development focused on real work-based issues and practice, high levels of dialogue, interaction and collaboration, knowledge sharing, construction and exchange, and the use of information and communication technologies. *Crossing boundaries* with different operational cultures, exchange of ideas in a multidimensional manner, and a dynamic network of colleagues can produce new and innovative concepts and procedures (Tynjälä, 2006; Tuomi-Gröhn et al, 2003).

Virtual learning communities provide an opportunity for individuals with a common purpose to come together across barriers in time and space. When using online communication tools in interaction busy professionals from long distances can access a community of peers at a time and place that suits them (Lewis & Allan, 2005). Based on Qureshi and Zigurs (2001), focusing on tasks and goals is easier in virtual environments than in traditional ones, so it makes possible the full advantage of diversity in global collaborations. Serving the needs of virtual team members is the starting point for payoffs from global virtual collaboration (Qureshi & Zigurs, 2001). Collaboration provides a means through which representatives from different organisations can share their knowledge and expertise and develop an understanding and appreciation of each other's perspectives (Lewis & Allan, 2005). Based on previous research, virtual teams can be examined by using factors which contribute to the successful performance of the team (see Table 1, Pallow et al., 2004; Lewis & Allan, 2005; Qureshi & Zigurs, 2001; Sobrero, 2008; Tenhunen & Leppisaari, 2009).

Table 1: Successful performance factors of virtual teams

Stages of virtual teams	Key features	Critical success factor
Foundation and induction	<ul style="list-style-type: none"> • member recruiting • project design • training 	<ul style="list-style-type: none"> • identifying potential members • the design of interaction • knowledge sharing to foster common understanding/goal and shared language vs. specialist language • early and uniform training
Incubation, Socialisation (<i>socio-emotional processes</i>)	<ul style="list-style-type: none"> • strategy/goal setting • developing shared language • team building, cohesion, commitment and trust 	<ul style="list-style-type: none"> • relationship building, facilitating socialisation • visual online meetings • personal and institutional trust; swift trust model • mixed amount of managerial control / intervention
Improving performance Implementation (<i>task processes</i>)	<ul style="list-style-type: none"> • communication, knowledge sharing • learning activities and collaborative knowledge construction • coordination and the commitment of the team 	<ul style="list-style-type: none"> • the right selection of technology, openness vs. closeness • ineffective vs. effective leadership/management motivation • structured activities and explicit roles and responsibilities vs. right balance between structure and flexibility • support (peer, technical) • time managing • cultural differences vs. understanding diversity
Closure Outcomes	<ul style="list-style-type: none"> • performance, skills acquisition • satisfaction 	<ul style="list-style-type: none"> • training • interaction • rich communication methods • team viability

The design of the virtual learning community and the structuring of its interactions, particularly early on in a team's life, have been found to impact the development of a shared language and shared understanding by team members. Clear team structure contributes to virtual learning community success. Once a shared knowledge base is established and a shared language is found, the members of the virtual learning community appear to be able to complete ambiguous tasks relying on electronic communication (Pallow et al, 2004; Peters & Manz, 2007). Both synchronous and asynchronous methods should be employed to enhance participants' sense of a virtual community (Hsu, McPherson, Tsui & Wang, 2006).

The central problem in this study centres on virtual learning community formation and member recruitment. According to Allan and Lewis (2005) virtual learning communities are likely to be effective if their membership is relatively small (5-18 members). Various recruitment methods exist: an open call for volunteers to join the group or the message can also travel from one colleague to another within a specific interest group (e.g., HE teachers). Employing organisations often take the initiative in supporting the development of community, bringing work colleagues from related areas together to work on particular problems or projects. In the IVBM project FOUAS has this gathering role of a virtual learning community (cf. Lewis & Allan, 2005).

Several virtual learning team studies have examined the role of cultural differences among team members. Cultural differences appear to lead to coordination difficulties and create obstacles to effective communication (Pallow et al., 2004). Also the members' technical expertise impacts on team performance and individual satisfaction. There is also evidence that virtual team members are affected more by the newness of the technology being used than by the newness of the team structure itself. Training of all team members improves team performance. Early and uniform training has also been found to foster cohesiveness, trust, teamwork, commitment to team goals, individual satisfaction, and higher perceived decision quality (Pallow et al, 2004). Training is important for successful virtual collaboration and successful training programs put work practices at the forefront (Qureshi & Zigurs, 2001).

Research has established a positive link between socio-emotional process and outcomes of a virtual team project. Relationship building, cohesion, and trust are fundamental processes fostering effectiveness, while suggesting virtual teams face significant difficulty in achieving them (Pallow et al, 2004; Peters & Manz, 2007). Compared to traditional team members, virtual team members generally report weaker relational links to teammates. Trust development in virtual teams presents significant challenges, as it is difficult to assess teammates' trustworthiness without ever having met them. Virtual team research has found that short-lived teams are in fact able to develop high trust, but do so by following a swift trust model: when they don't have enough time to slowly build trust, team members assume that others are trustworthy and begin working as if trust were already in place while seeking confirming or disconfirming evidence throughout the duration of the project (Pallow et al, 2004; Peters & Manz, 2007).

Research (Hsu et al, 2006; Gannon-Leary & Fontainha, 2007; Daugaard, 2003 in Lewis & Allan, 2005) has also identified the following key barriers in working in a virtual team/learning community: *language, time, technique* and *mentality*. According to Gannon-Leary & Fontainha (2008) critical success factors include usability of technology; trust in, and acceptance of ICT in communication; a sense of belonging among members; paying attention to cross-national and cross-cultural dimensions of the virtual learning community; shared understandings; a common sense of purpose; use of netiquette and user-friendly language and longevity. Virtual collaboration supports the creation of communities of practice where people work together to achieve joint goals. Cultural diversity can enhance the value of virtual collaboration (Qureshi & Zigurs, 2001). According to Hsu et al. (2006) language barriers are obvious in international virtual learning communities and cannot be resolved over a short period of time. Participants need to be encouraged to use simple English to express ideas.

Virtual learning communities lack opportunities for face-to face interaction and socialising which can consolidate group membership. Consequently individuals may fail to engage in the community preferring to work autonomously. Trust building is vital for sharing and trust primarily develops through face-to-face interactions. Trust can also be a barrier at an institutional level. Crossing virtual boundaries between institutions can result in institutional-related problems, especially legal issues such as data protection, intellectual property (Gannon-Leary & Fontainha, 2008).

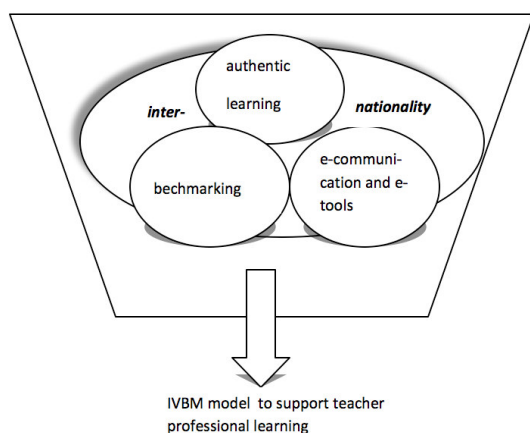
Teachers learning virtual internationality authentically

Staff development is changing; traditional training programs are being replaced by virtual learning communities, concomitantly increasing concerns about data protection, privacy and confidentiality (Lewis & Allan, 2005). Digital age teachers need access to best practice and quality PD (New Skills for a Global Innovation Society, 2008). One

strategic objective of continuing professional development opportunities in the European Education and Training 2020 document (ET 2020) is enhancing innovation and creativity at all levels of education and training. Creativity and innovation will be promoted by developing specific teaching and learning methods (including the use of ICT tools and teacher training). ET 2020 underlines mutual learning: peer learning activities and web-based cooperation in teacher PD.

Training teachers to become international teachers requires new innovative educational and work methods. Technological developments provide new kinds of solutions. One solution in our experience is the combination of benchmarking and virtuality, which we have previously piloted and researched (Leppisaari, Vainio & Herrington, 2009a). Development needs arising from the piloting of the virtual benchmarking model (VBM) we developed as a new way of CPD for higher education, clearly indicated that internationality needs to be strengthened. Figure 1 illustrates the central elements of the IVBM project. Internationality is a new element in the 2009 implementation. The project context is authentic e-learning. In the project teachers also learn virtual internationality authentically. Virtuality/virtual methods and tools facilitate international activity. During the project we also investigate how internationality affects work methods and what challenges it sets for implementation.

Figure 1: Main elements in creating an IVBM-model



In the IVBM model, teachers with their peers evaluate authenticity in e-learning practices, deploying a tool created from the authentic learning elements proposed by Herrington and Oliver (2000). Challenges authenticity sets for virtual education are considered using a virtual benchmarking method: HE teachers present their courses, mirror them against the elements of authentic learning, receive peer feedback and gain a better understanding of the elements through developmental collegial dialogue. A benchmarking process realised through virtual sessions and social media work methods is developed to support teachers' professional development (Leppisaari, Vainio & Herrington, 2009b).

There are two types of participants in the IVBM project. International BM pairs (a goal of 7 pairs) form the project's core, and in addition to these, anyone (HE teachers primarily informed) can join the IVBM international learning community as observers. Project cases come from Finland (7), Canada (1), South Korea (1), Belgium (1) and England (1). Other participants are the project consultant, an expert on authentic learning from Australia and three observers from Japan.

The benchmarking process utilises Adobe Connect Pro software (ACP) as a synchronous communication tool in virtual meetings and the Ning environment as an asynchronous collective knowledge collation and interaction forum. Discussion forums are opened in Ning, in which all collective material, such as benchmarking session recordings and evaluation feedback discussion, is saved. Teachers can add new discussion areas as needed and create their own blog. Our technological choices are in line with OECD perspectives: the further evolution of non-proprietary open source models and systems (OECD, 2005, 134–135) will enable the interactive social and pedagogical potentials of online education to be more effectively developed than in commercial learning systems such as Blackboard/WebCT (Marginson & van der Wende, 2008). IVBM can be described as short term virtual team cooperation. It is interaction

among a special interest group, as a virtual learning community across traditional boundaries, matching teachers together in answer to their rapidly changing professional development needs (cf. Qureshi & Zigurs, 2001).

The study

'User experiences' of virtual work in an educational context has been studied to some extent (see e.g. Blomquist, Hällgren & Nilsson, 2005; Kumar & Bhattacharya, 2009) but little research data exists on internationally realised collective virtual PD of teachers. In this paper, we examine the challenges internationality sets for constructing a virtual benchmarking project. Our focus of interest is the challenges and barriers existing in virtual learning communities (see Hsu et al, 2006; Gannon-Leary & Fontainha, 2007; Daugaard, 2003 in Lewis & Allan, 2005) and these are observed and defined by the authors and illustrated with quotes from teachers participating in the IVBM project.

The examination here centres on the project's initial stages; gathering of networks and creating a shared operational environment. Further studies can focus on interaction during virtual sessions and the effectiveness of tools in international virtual teamwork based on the IVBM model. Research data comprises the project coordinators' observations, notes and reciprocal discussions. The kick-off seminar for Finnish participants was held as an ACP session in March 2009. Experiences, especially of the project initiation, were considered in an ACP session held in May 2009 together with Finnish benchmarking case participants, that is, universities of applied sciences teachers. The project coordinators have engaged in discussion with international case members via email and have also met members during international work trips.

The IVBM project's initial survey on the Internet (March-April 2009) consisted of open-ended questions asking teachers to describe the added value an international context brought to the project. At the time of writing 16 Finnish teachers had responded to the survey and the data will be supplemented during September 2009 with responses from international members. The reflection enabled teachers to recognise their starting point and attitude to the international project process being initiated.

The research data comprises the coordinators' observations as well as the critical self-reflections and collective reflections of the coordinators and teachers. The researchers recognise their subjectivity in the project implementation, but nevertheless the study is unable to provide objective knowledge on the challenges relating to the project's early stages. In accordance with action research (see Leitch & Day, 2000; Cohen, Manion & Morrison, 2005) this qualitative study also involves progressive problem-solving: theorising practical problems and clarifying background factors increases understanding of the phenomenon and helps in turn to apply theory to practice in order to improve the effectiveness of the IVBM project (cf. Slepko, 2009).

Reflections on project development

The early stages of the IVBM project have highlighted the possibilities, barriers and challenges of this international project being implemented as a virtual learning community. These are examined below by mirroring each against the collated theoretical framework described above. Four types of barriers are analysed (Hsu et al, 2006; Gannon-Leary & Fontainha, 2007; Daugaard, 2003 in Lewis & Allan, 2005): language barriers, time barriers, technical barriers and mental barriers.

The initial survey shows Finnish teachers clearly saw added value in the benchmarking project's international context. An international operational environment adds perspectives and challenge (teacher = t1). Teachers also saw added value in the model in the acquisition of surprising new ideas from different cultures. Virtual international experiences are expected to give new ideas and stimuli: *Diverse ideas are being shared. It gives an opportunity to consider cooperative development of international e-courses in the future.* (t8). Added value is provided through each pairs' reciprocal expansion of the international network, facilitating acquisition of new ideas by both parties (t2, t11).

Teachers believed that participation in the IVBM project supports professional growth. An international context helps to mirror one's own strengths (t3, t12) and provides an opportunity to see what kinds of e-courses are produced elsewhere (t4). Working in English improves language skills and ability to produce learning material in English (t4, t12). Awareness of Finnish e-learning skills was also thought to deepen as the project proceeded.

Teachers should experience working in a virtual community in order to create such a community for their students. Participation in an internationally realised project raises expectations of strengthening one's internationality skills: *Offers a chance to assess possible cultural differences in teaching and guidance* (t8). Different cultures react to issues differently, which hopefully broadens perspectives and provides viewpoints that would otherwise remain hidden (t5). Students from different cultures are enrolled in educational programs with English as the language of instruction, so it was hoped the teacher's experience of working in an international virtual community would open doors to the student world. Both Finnish and international teachers have considered the IVBM model presented in its early stages (March-May 2009) as innovative and its implementation has been eagerly awaited.

Success factors (see Table 1) and barriers (Hsu et al, 2006; Gannon-Leary & Fontainha, 2007; Daugaard, 2003 in Lewis & Allan, 2005), which have affected the IVMB project's foundation and incubation stages are examined in more detail below.

Language barriers

A specific shared language is a challenge in international projects. English is seen as a 'global language', but its use in creating complex theoretical descriptions is not necessarily possible for all participants. Hsu et al (2006) recommend so-called easier English be accepted in international virtual teamwork, which sets a particular challenge for those group members for whom English is their native language. On the other hand, the asynchronous (Ning) communication connection employed in addition to the synchronous ACP connection, may help non-native speakers join discussions on authentic learning evaluation. Writing in a foreign language may result in less comment in a virtual environment, as members may be uncertain of their ability to express ideas.

In addition to spoken language, a shared content language is also problematic. The common goal of the IVBM project is an examination of a course or module through application of authentic learning criteria in a benchmarking process. The authentic learning approach acts like a common content language, the learning of which should be invested in at the start of the project. Not only are there national discipline-specific differences in educational concepts and their use, but also cultural differences. Interpretation of the authentic learning criteria in a Finnish context has required extensive collective discussion (see Leppisaari et al, 2009a), so time will certainly be needed in international cooperation to find a shared content language.

Research indicates a blended learning approach is more effective than a totally virtual learning community for finding and becoming familiar with a shared language and even more broadly a shared understanding in virtual work (Lewis & Allan, 2005, 11). This, however, has not been possible in this current project as members are e.g. in Korea, Canada, Australia and Finland.

Time barriers

The issue of time (in several different senses) is met when constructing an international virtual learning community. We have observed that the planning and constructing of an international project consumes considerably more time than projects in a national context. International benchmarking cases in the IVBM project have been sought through the personal contacts and networks of the coordinators and FOUAS teachers participating in the project. The Finnish cases were compiled from the FOUAS network with the assistance of FOUAS contact persons.

One year is not a realistic implementation period for an international project if this period also includes recruitment and preparation stages. Due to issues of flexibility and time differences, discussion between busy professionals primarily occurs through email, and this requires time. Furthermore, time differences will be problematic in the future. Because the IVBM project cases are from Finland (7), Canada (1), South Korea (1), Belgium (1) and England (1), time differences will prove challenging for the synchronous online sessions. The time difference between a benchmarking pair may be 8 hours and at its greatest it can be 12 hours between synchronous session participants (such as Australia and Canada).

The virtual work model saves time (for travel) and this is often used as an argument for virtual activity. However, teachers also felt that lack of time is a barrier to virtual work. Adopting new methods and tools is time consuming, as are the advance preparations required in the project and the regular participation in asynchronous discussion in Ning.

Technical barriers

At this stage of the project we do not have experience of how the technical infrastructure in various countries affects synchronous interaction. Time needs to be reserved for testing synchronous connections prior to the joint meeting and

this requires finding a time convenient to all. Testing cannot be left to the start of the meeting, it must be done beforehand. The software needs to work so that everyone has a good audio and video connection. The project scope does not include technical support for members, and instructions and testing remains the coordinators' task. Finnish teachers feel data protection that is too strict complicates collaboration (t7). Firewalls used by educational institutions may block the use of ACP. This needs to be taken into consideration with international members. Time must be allocated for learning to use the software, as some members are not familiar with virtual meeting software. The Ning work environment employed in the project is also a new tool for many. The environment is not technically challenging, but the open operational culture may be new. The environment's structure also needs to be mastered, once again requiring time.

Mental barriers

The central barriers in the project's initial stages appear to be *mental barriers*. Trust is a key dimension in examining mental barriers (see Peters & Manz, 2007). How can trust be built? What factors affect its establishment and generally facilitate interaction and the construction of collaborative knowledge in international collective work? 52 members have logged into the Ning environment (8/2009), which demonstrates the environment's open membership nature. Employing social media in education raises new kinds of copyright problems. Material produced for selected environments is open and the environment's administrator also has a right to the content. Thus, in terms of use, a conflict due to Intellectual Property Rights may arise. Issues of data protection, privacy and confidentiality must be recognised in open environments (Lewis & Allan, 2005, 14). Coordinators need to raise these issues clearly and also discuss game rules with members.

Also, benchmarking pairs study each other's virtual courses. Discussion is needed on what openness (cf. open access) is in this context, and how much of a student's and teacher's work can be shown to others. Student data protection must also be ensured and personal discussions not be revealed to others. In discussions with international case representatives in the project's initial stages, the issue of educational organisations' 'ownership' of course implementations was raised often. Permission for public display (open source, Web 2.0) must be sought. For this reason a teacher in the international virtual project cannot be examined as a discrete actor; rather his/her connection to the background organisation is a powerful component of the project implementation. It may not just be a question of a teacher's willingness to show material or skills, rather the organisation's policy is central in terms of intellectual property rights. Restrictions due to professional or organisational confidentiality needs to be understood when deciding how courses will be introduced to the different participating parties (Lewis & Allan, 2005, 163). In the Ning environment, especially in discussions and introductions of courses it must be remembered that there are observers and even outsiders present, some of whom are there under a pseudonym. In order to build trust, those present in the environment should be able to recognise each other. The community needs to decide how unknown participants will be treated, and together make decisions such as whether or not they are removed from the environment.

Mental barriers in our experience also include *cultural factors*. Cultural differences and physical distance are especially challenging in international cooperation (t7). One teacher described previous experience of the impact of cultural factors on international cooperation in training: *I've already realised in my 'own' project that cultural differences bring their own flavour to the project, both good and bad. For example, not every culture has the same understanding of schedules and deadlines as us protestant Finns! :) (t1)*

Building trust in virtual environments and collaboration takes time (see e.g., Hakkarainen, Palonen, Paavola & Lehtinen, 2004, 189–191). Therefore, the majority of researchers do not recommend totally virtual learning projects. On the other hand, blended implementations in many cases are impossible in international cooperation. The *swift trust model* (see Meyerson, Weick & Kramer, 1996 in Powell et al, 2004; Peter & Wanz, 2007), in the light of our experience, brings a relevant perspective to the examination of virtual learning communities. Trust can be seen as the underlying assumption, a matter of will, from which we set out on a common process. Adding images to Ning is seen as significant as it would increase group cohesion. According to studies (Peters & Manz, 2007) synchronous virtual meetings at the start of a cooperative process strengthen trust. The ACP sessions held in the early stages of the IVBM project were national due to difficulties in recruiting international cases and therefore, in future projects, it is essential that cases are already recruited before the actual project work begins.

Conclusions

Through this examination of the difficulties arising from an international dimension encountered in the initial stages of the IVBM project we have attempted to eliminate various misconceptions concerning speed and ease of initiating

international projects. International virtual projects and working in virtual learning communities presents many challenges, which can, however, be utilised as part of the collective learning process. The strongest barrier appears to be mental barriers, which centre on trust and cultural factors at an individual and especially organisational level. Language, time and technical barriers understood widely have also affected the project's start. Shared language includes shared understanding of the project task and in the case under examination, the internalisation of the theoretical framework of authentic learning (cf. Peters & Manz, 2007, 120–121). Time factors, both physical time differences in synchronous benchmarking work and members' busy schedules, require a firm commitment to the project. The IVBM project's strength is the combination of synchronous and asynchronous work, which, for example, in project related observations and collective discourse is seen to foster participation in ways convenient to members. Familiarisation with the methods enabled by social media, and clear instructions and structures for tasks, ease cooperation.

Operating in virtual environments requires an ability to communicate through technical devices and also diverse media competence, with which one communicates in the environment. Working in international virtual teams demands intercultural skills, sensitivity to discern cultural differences and ability to cope with uncertainty. Project coordinators need to possess skills with which members are empowered to work towards common goals. Dialogic skills sustain discussion and bring continuity to the activity.

Open and innovative learning environments challenge teaching staff to a new kind of cooperation. We believe that the 'collision' of different perspectives at cultural interfaces results in authentic internationality learning and brings quality to higher education teaching. Virtual benchmarking projects enable collisions and the crossing of different boundaries between teachers and different cultures in the development of education.

Content barriers may be one of several additional barriers, even though they are arguably not as prominent as those mentioned earlier. The concept or the perspectives of virtual benchmarking may be different according to the subjects we are investigating. Some subjects are more suitable than others to develop as authentic learning environments. Also teachers' major (science field) may affect how to monitor and what to focus when they are exploring the benchmarking courses. So figuring out the methodology for a better benchmarking process will be an interesting topic for the future research.

We will continue the examination begun in this paper of particular challenges created by an international dimension in the IVBM project as the project progresses. Progressive research furthers the project's development work as outcomes can immediately be applied to the project implementation. In further studies we will seek answers to the following questions: How does multicultural activity enrich the benchmarking process? How do authentic learning criteria work in a multicultural context? How does a synchronous and asynchronous environment in the project support interaction in an international virtual learning community? Such work will further increase understanding of the internationalisation of learning and educational collaboration.

References

- Blomquist, T., Hällgren, M. & Nilsson, A. (2005). *Development of Virtual Teams and Learning Communities*. Paper presented in m-ICTE2005 conference. Available: <http://www.formatex.org/micte2005/251.pdf>. Accessed 14.8.2009.
- CEP. (2005). *Common European Principles for Teacher Competences and Qualifications*. European Union. Retrieved 15.8.2009 from http://ec.europa.eu/education/policies/2010/doc/principles_en.pdf.
- Chase, N. (1999). Learning to Lead a Virtual team. *Quality* 38 (9), 76.
- Cohen, L., Manion, L. & Morrison, K. (2005). *Research Methods in Education*. 5th Ed. London & New York: Routledge.
- Cross-border. (2007). *Cross-border tertiary education. A way towards capacity development*. OECD. Retrieved 14.8.2009 from <http://browse.oecdbookshop.org/oecd/pdfs/browseit/9607071E.PDF>.
- Daugaard, V. (2002). *The co-operation across cultures in public and scientific libraries: co-operation in Net Librarian*. World Library and Information Congress: 69th IFLA General Conference and Council, 1-9 August Berlin. Retrieved 15.8.2009 from <http://www.ifla.org>
- ET 2020, *Council Conclusion on a strategic framework for European cooperation in education and training*.
- FIS. 2008. Finland's Innovation Strategy (2008). Available: http://innovaatiostrategia.fi/files/download/Nationalinnovationstrategy_EN.pdf
- Gannon-Leary, P. & Fontainha, E. (2007). Communities of Practice and virtual learning communities: benefits, barriers and success factors. *eLearning Papers*, no 5. Retrieved 14.8.2009 from www.elearning.papers.eu
- Hakkarainen, K., Palonen, T., Paavola, S. & Lehtinen, E. (2004). *Communities of Networked Expertise. Professional and Educational Perspectives*. Earli. Amsterdam: Elsevier.

- Herrington, A. & Herrington, J. (2006). What is an Authentic Learning Environment? In A. Herrington & J. Herrington (Eds.) *Authentic Learning Environments in Higher Education* (pp. 1–13). Hershey: Information Science Publishing.
- Herrington, J. & Oliver, R. (2000). *An instructional design framework for authentic learning environments*. Educational Technology Research and Development 48, 23–48.
- Hsu, H., McPherson, S., Tsuei, M. & Wang, S. (2006). Enhance Teachers' Global Awareness through Information and Communication Technologies (ICT). In T. Reeves & S. Yamashita (Eds.), *Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2006* (pp. 590–592). Chesapeake, VA: AACE. Retrieved 13.8.2009 from <http://www.editlib.org/p/23755>.
- IHEPP (2003). *Internationalisation of Higher Education Practices and Priorities: 2003 IAU Survey Report*. Retrieved 14.8.2009 from http://aei.dest.gov.au/AEI/MIP/ItemsOfInterest/04Interest34_pdf.pdf
- Im, Y. & Bautista, D. (2009). Conceptualizing a Cyber University Model in Support of Effective ESD. *Asia-Pacific Collaborative education Journal* 5(1), 13–28.
- HE-Internationalisation. (2009). *Korkeakoulujen kansainvälistymisstrategia 2009–2015*. Opetusministeriö. Helsinki. Retrieved 14.8.2009 from <http://www.kansainvalistymisstrategia.fi/files/download/Korkeakoulujenkansainvalistymisstrategia2009-2015-20090127.pdf>
- Kim, A. (2008). An Analysis on International Curriculum Implementation in Higher Education. *The Journal of Curriculum Studies*, 26(1). 151–180.
- Korean Ministry of Education, Science, and Technology. (2006). *Internationalization strategies in higher education*.
- Kumar, K. L. & Bhattacharya, M. (2009). *Designing for Learning Effectiveness Across Borders in a Multicultural Context*. Retrieved 15.8.2009 from <http://www.edilib.org/p/30471>
- Lee, O., Leppisaari, I. & Im, Y. (2009). Guidelines for national e-learning evaluation – International comparative study between Korea and Finland. *Asian Pacific Collaboration education Journal* 5 (1), 2009, 29–48.
- Leitch, R. & Day, C. (2000). Action research and reflective practice: towards a holistic view. *Educational Action Research* 8(1), 179–193.
- Leppisaari, I. (2009). *Supporting sustainable development through e-learning – reflections on the Finnish situation*. Presentation in International Hanyang Cyber University Conference, Seoul 24–25.6.2009.
- Leppisaari, I., Ihanainen, P., Nevgi, A., Taskila, V-M., Tuominen, T. & Saari, S. (2008). *Hyvässä kasvussa – Yhdessä kehittään kohti ammatikorkeakoulujen laadukasta verkko-opetusta*. (Growing well – Developing together towards quality university of applied sciences online education). The Finnish Higher Education Evaluation Council FINHEEC 4: 2008. Helsinki.
- Leppisaari, I., Mahlamäki-Kultanen, S. & Vainio, L. (2008). Virtuaalinen ryhmämentorointi ammattikorkeakouluopettajan osaamisen kehittämisen tukena (Virtual group mentoring supporting a teacher's professional development). *Aikuiskasvatus* 28 (4), 278–287.
- Leppisaari, I., Vainio, L. & Herrington, J. (2009a). *Developing authentic e-learning through virtual benchmarking*. In C. Fulford & G. Siemens (Eds.), *Proceedings of ED-MEDIA 2009 World Conference on Educational Multimedia, Hypermedia & Telecommunications*. Chesapeake, VA: AACE, 4423–4432.
- Leppisaari, Vainio, L. & Herrington, J. (2009b, in review). *Virtual benchmarking as professional development: Peer learning in authentic learning environments*.
- Lewis, D. & Allan, B. (2005). *Virtual Learning Communities*. Berkshire: Open University Press.
- Marginson, S. & van der Wende, M. (2008). Globalisation and Higher Education, *OECD Education Working Papers*, No. 8, OECD Publishing. doi:10.1787/173831738240
- Meyerson, D., Weick, K. E. & Kramer, R. M. (1996). Swift Trust and Temporary Groups. In R. M. Kramer & T. R. Tyler (Eds.) *Trust in Organizations: Frontiers of Theory and Research*. (pp. 166–195). Thousand Oaks, CA: Sage Publications.
- Peters, L. M & Manz, C. C. (2007). Identifying antecedents of virtual team collaboration. *Team Performance Management* 13 (3/4), 117–129. DOI 10.1108/13527590710759865
- Powell, A., Piccoli, G. & Ives, B. (2004). Virtual Teams: A Review of Current Literature and Directions for Future Research. *The DATA BASE for Advances in Information systems* 35 (1), 6–34.
- Qureshi, S. & Zigurs, I. (2001). Paradoxes and prerogatives in global virtual collaboration. *Communication of the MC* 44(12), 85–88.
- Slepko, H. (2008). Teacher Professional Growth in an Authentic Learning Environment. *Journal of Research on Technology in Education* 41(1), 85–111.
- Sobredo, P. S. (2008). Essential Components for Successful Virtual Learning Communities. *Journal of Extensions* 46(4). Retrieved 15.8.2009 from www.joe.org/joe/2008august/a1.php.
- Stella, A. & Liston, C. (2008). *Internationalisation of Australian universities*. Melbourne: AUQA.
- Tenhunen, M-L. & Leppisaari, I. (2009). *Promoting growth entrepreneurship through e-mentoring*. Paper presented in the 2009 Babson College Entrepreneurship Research Conference (BCERC) held at Babson College, Wellesley, MA, USA, on June 4–6, 2009.
- Tuomi-Gröhn, T., Engeström, Y. & Young, M. (2003). From transfer to boundary-crossing between school and work as a tool for developing vocational education: An introduction. In T. Tuomi-Gröhn & Y. Engeström (Eds.) *Between school and work: New perspectives on transfer and boundary-crossing* (pp. 1–15). Amsterdam: Pergamon.
- Tynjälä, P., Ikonen-Varila, M., Myyry, L. & Hytönen, T. (2007). Verkostoissa oppiminen. (Learning in networks.) In A. Eteläpelto, K. Collin & J. Saarinen (Eds.) *Työ, identiteetti ja oppiminen* (pp. 258–286). Helsinki: WSOY.
- Vartiainen, M., Hakonen, M., Koivisto, S., Mannonen, P., Nieminen, M. P., Ruohomäki, V. & Vartola, A. (2007). *Distributed and Mobile Work, Places, People and Technology*. Helsinki University of Technology. Otaniemi.