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International Virtual Mobility in Higher Education: Design Reflections and Lessons Learned

Abstract

In response to ever-increasing demands for internationally and interculturally competent educational experts, three European universities co-developed a virtual mobility course with mutual ECTS recognition for their master students in educational sciences. It brings together instructors and students to synchronously collaborate on practical tasks of developing, designing, and evaluating a digital educational solution. Here, the two-year evolution of this collaborative project is reflected upon and analyzed through the lens of design-based research, giving insights into organizing, facilitating, teaching, and developing sustainable international courses.

Keywords

virtual mobility, internationalization, higher education, digital teaching and learning, curriculum development

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Introduction

Virtual Mobility (VM) has potential to foster an international learning experience for students through collaborative teaching and learning. As defined by the European Commission in the Erasmus+ 2020 call, as well as the European Association of Distance Teaching Universities (EADTU, 2019), VM is "a set of activities supported by Information and Communication Technologies (ICT), including e-learning, that realize or facilitate international, collaborative experiences in a context of teaching, training or learning" (ERASMUS+ 2020 PROGRAMME GUIDE). The core goal of mobility is always the same: creating an international academic experience in a framework of collaboration between universities (EADTU, 2019). And both physical and virtual mobility programs provide a unique opportunity for intercultural contact (e. g. BRUHN, 2020; O'DOWD, 2018), but at the same time student experiences can remain "a somewhat random result of experimental learning", as participation in these programs does not always lead directly to the development of intercultural competences (PAPATSIBA, 2005). The way mobility programmes are structured and the type of learning experience provided have shown to be key to the enriching learning experience (PAIGE et al., 2009), which is especially relevant in the context of virtual mobility.

Following the framework of Design-Based Research (EULER, 2014), the present paper aims at formulating design principles on shaping and fostering international collaboration among and between the teachers and groups of students to enable knowledge exchange and enriching intercultural collaborative learning experiences within a jointly-developed and delivered international VM course. Three European universities – the FernUniversität Hagen (FU) in Germany, the University of Jyväskylä (JYU) in Finland and the Open Universiteit (OU) in the Netherlands – joined forces for a collaborative design, delivery and consecutive evaluation and improvement of a common VM course. Based on two course runs throughout two years, the concepts of international virtual collaboration, facilitation of group work and online instruction (e. g. online synchronous sessions and asynchronous support) were investigated which resulted in generating design principles for joint

international academic VM courses on a micro level, as well as exploring challenges and ways to deal with them on the road to internationalizing offers in higher education context.

Course Context and Design

This paper reflects on the findings and design insights of the joint development and implementation of the virtual mobility course on Instructional Design by a team of partners from FU, JYU and OU for their Master students of Educational science. The aim was to offer an international collaborative learning environment for adult students, who may be less mobile due to their life situation, e. g. who combine studies and work and family duties (VOGEL et al., 2019). The student cohort is quite heterogeneous due to different delivery formats of the universities (FU and OU: blended and distance learning, JYU: technology-enhanced face-to-face learning) and the differences in their curricular contexts: pre-master and a Master of Science programme in Educational Science for educational practitioners in OU, a Master of Arts programme in e-Education in FU, and a Master programme in Educational Sciences of the Faculty of Education and Psychology JYU. Within the course students work collaboratively together to develop, present and evaluate interactive digital solutions to authentic educational problems defined by students themselves. The projects are based on theories and models of educational design and are developed and prototyped in small international teams. Thus, this course focuses on providing opportunities and facilitation for active participation and collaborative learning through an authentic project-based course design.

The course design was based on the principles of computer supported collaborative learning (CSCL) (DILLENBOURG, 1999) to promote synchronous and asynchronous collaboration and exchange while working on authentic tasks – ill-defined problems that allow competing solutions and diversity of outcomes (HERRINGTON et al., 2014). Addressing the purpose, motivation, and psychological closeness (cognitive realism) was fulfilled by challenging students to identify and define the problems that stemmed from their professional contexts. These educa-

tional problems were to be collaboratively solved throughout the course in mixed international teams of up to 5 students by devising a theoretically-based digital educational solution. To scaffold the project-based learning process, course participants had access to expert support through course resources, content presentation, as well as teachers' help and guidance if needed. What is more, participants were able to network and communicate with peer teams, thus learning from and with each other, following the principles of social learning. Authentic assessment gave participants the opportunity to demonstrate their solutions that were presented to and evaluated by peer teams, followed by the student reflection, which, in turn, was assessed by the teachers. The quality standard ISO/IEC 40180:2017 was used to structure the course and ensure that major quality standards were met (STRACKE, 2006). The course was shaped on Moodle, a learning management system that allows not only content presentation through videos, wikis, handouts and embedded interactive elements (like e. g. H5P, Miro or Padlet content), but also general and team discussion forums, which made multiple group work formats possible (within groups, between group) and enabled students to communicate, collaborate and evaluate each other's projects. Apart from that video conferencing tools were used for regular class meetings and content presentation. And students were free to use "external" tools for their team collaboration (e. g. Trello, Zoom).

At the end of the course, students presented their collaboratively developed projects (digital educational solutions) for peer evaluation, and then reflected on the outcomes and shared their course experience in the final presentation and discussion. Apart from that, students had to complete the end-of-the-course evaluation, which together with the observations of their activities throughout the course could give qualitative data for analysis and identify the contextual factors that are relevant for the intervention's effectiveness (EULER, 2014).

Course instructors from the three universities have also been working collaboratively on developing, teaching, evaluating and improving the course in the first two runs and establish processes for effective cooperation. They had regular online discussion and exchange meetings alongside asynchronous collaboration activities (set up in the Teams channel). This not only allowed to gradually align expecta-

tions and national/institutional cultures, but also devise instruments and processes for managing the international project, which is another area of focus of the present paper. The principles of total quality management in educational design (STRACKE, 2006) helped structure the collaborative evaluation and continuous improvement of the course design. Overall, both the two-year joint course development by teachers and cross-border collaborative work by students bring innovation to the curricula, allowing not only to shape design recommendations for similar courses, but also to explore the potentials and pitfalls of developing a virtual collaboration environment through the lens of design-based research.

The VM Course Development

Course development process followed the Design-Based Research (DBR) framework defined as "a systematic but flexible methodology aimed to improve educational practices through iterative analysis, design, development, and implementation, based on collaboration among researchers and practitioners in real-world settings, and leading to contextually-sensitive design principles and theories" (WANG & HANNAFIN, 2005, p. 6–7). Throughout the two course iterations the team of teachers from the three universities examined how international collaborative learning can be best shaped and improved in the online setting of a joint academic course on instructional design. More specifically, how to best address the following concepts in the course design:

- Content presentation and delivery
- Groupwork facilitation and supervision (including inter-team communication)
- Role of the instructors

Another goal was to examine how to improve the teachers'/instructors' collaboration in the process of developing an international virtual mobility course taking into account the cross-border context and institutional factors.

To address these key questions, the research and course development process was realized in iterate cycles of design, testing, analysis and redesign (EULER, 2014) on a micro-level of a classroom. The development process is on-going (the third implementation cycle was launched in May/June 2021), which will result in more detailed testing and evaluation. In the present paper we will summarize the findings from the first two runs (iterations) of the virtual mobility course.

Throughout the two course iterations (pilot in winter of 2018/2019: 24 students enrolled, 16 evaluated the course; second iteration in 2020 completed by 32 and evaluated by 23 students) the following qualitative evaluation methods and strategies were used: mid- and post-course surveys, "classroom" observations of participant (activity and performance) and their feedback in virtual online sessions and Moodle environment (including forums), organic feedback from students during and after the course. Apart from that, the team of instructors, who are also course developers, were tightly collaborating, both synchronously and asynchronously, on developing, teaching and improving the course. This collaboration produced data and artefacts for qualitative evaluation – discussion minutes and checklists covering structural and organisational aspects of course development, as well as conceptual aspects of the course design: content presentation and delivery, group work facilitation and supervision, type of instruction, evaluation, assessment and expectation management.

Specific findings of the two iterations of this international virtual mobility course will be outlined below.

Lessons Learnt

Following the aim of examining how international collaborative learning can be best shaped and improved in the online setting of a joint VM course on instructional design, the following findings were made in terms of course design.

Content presentation and delivery. In the first pilot run (2018/2019), teams of instructors from different universities developed different content blocks, "weeks"

of the course using various instructional methods and tools (Wiki, Mind Map, etc.). Although the course structure was discussed and agreed upon (VOGEL et al., 2019), the post-course survey after the pilot revealed considerable differences in presentation styles, instructors' expectations and assessment (performed differently by teams from different universities) which caused students' confusion and increased cognitive load. So in the second run mixed teams of teachers were preparing course blocks together, having to align their teaching practices, presentation technics, tools used with the tasks and assessment, which resulted in improved satisfaction in the second course run, based on the evaluation questionnaire and students' comments within their evaluation (e. g. "I found the framework […] to be very effective and well prepared", "The structure was clear to follow and the tasks for the week were clearly stated").

Groupwork facilitation and supervision

In the course pilot students were working autonomously and the facilitation of teamwork was done "by request" – if some teams needed help they contacted instructors. This approach was hypothesised to require, but also promote, self-regulation (VOGEL et al., 2019). Based on the feedback (evaluation questionnaire, n=11), it became clear that for most students collaboration and the international setting itself were new, and although some students enjoyed it, many faced challenges and problems collaborating with their peers and mentioned the need for support. So in the second iteration each team of students got their "facilitator" assigned – the instructor who asynchronously monitored progress, gave feedback and supported by request. To align standards, team facilitators worked in international "clusters" and discussed communication with the students, requirements and expectations. The evaluation of the second run (n=23) reflected higher satisfaction among students, but identified that some students still needed "more systematic and more personal guidance". Only few teams proactively contacted their facilitators for help, struggling "on their own". Although all the teams performed well and coped with the tasks, some started collaborating quite late in the course, which resulted in higher time pressure and increased workload; others faced interpersonal

issues which negatively impacted the overall satisfaction. Considering these issues, the need for more structured team facilitation has been identified and the third iteration gave way to the teambuilding with the theoretical focus in the first week of the course; active role of team facilitators – getting to know the teams in the first session, monitoring progress and issues, asking to regularly report and give intermediate feedback on assignments, which, although scaffolds collaboration, does not require additional workload form students and extra hours within the course, as it is an important factor for all the universities involved.

Role of the instructors

In the pilot run the teachers/instructors supported the students asynchronously on Moodle (through discussion forums, feedback on assignments, blackboard announcements) and synchronously in online sessions. However, in the evaluation it became apparent that students did not have a feeling of teacher "presence" and were expecting more teacher involvement on all levels and "guidance through the course", e. g. in online sessions. So in the second run online teacher "presence" was increased accordingly (more structured interaction in online sessions and forums, dedicated team support through team facilitators), which resulted in better evaluation outcomes after the second run.

In the first two iterations, virtual online sessions were used for questions and answers, and delivering course content. Based on the evaluation outcomes, they have been restructured according to the "flipped classroom" approach, with students studying recorded presentations before the sessions and having structured interaction in breakout rooms in the sessions, with instructors giving feedback to the discussion outcomes and explanations in the follow-up stage. This approach should give both structure, autonomy and feedback to the project-based course like the present one, with teachers not delivering content directly, but challenging, scaffolding students' team work and giving feedback on the progress.

Teachers'/instructors' collaboration

At a curricular level, the synchronous collaboration part is embedded differently in the universities' M.A. programs, constituting a separate 5 ECTS offer for the students of JYU, a part of a 7.5 ECTS course in OU, and a part of a larger 15 ECTS module in FU, which highlights the need to continuously work on harmonizing the constantly-evolving offers on their own, as well as the international collaboration part. From the target group's perspective, it means that the three cohorts' differing expectations, motivations and commitment need to be addressed and managed before and during the course, being sensitive to potentially changing attitudes, which was revealed both in the pilot and the second iteration of the course. In the third run this will be addressed through directly communicating curricular differences at the beginning of the course, finding out perceived needs, motivations and expectations throughout the course with the help of surveys and quick polls and addressing the findings accordingly.

At the cultural level, both lecturers and students faced challenges having to operate in an international setting with a varying range of high-low-context cultures without time to prepare or explicit training, based on the feedback from the first two runs of the international course and outcomes of the instructors' discussions. To deal with these challenges, participants should be given sufficient time and support to prepare for the international experience (e. g., preparation stage within the larger 15 ECTS module offered in 2021 by FU, or an independent international communication course offered by OU). Because in the first two iterations students reported some challenges following the course format and collaborating in international teams, it has been agreed to provide rationale following the guidelines of the self-determination theory (RYAN & DECI, 2017) for the format, teaching style and collaborative activities to increase the perceived value of the international offer for the students and internalise new practices. It should be noted that differences in cultural and institutional backgrounds, which lead to miscommunication, were the case not only in teacher–student communication, but also within both groups, based on the course evaluation of the pilot as well as analysis of teachers' collaboration artefacts (discussion outcomes, checklists and asynchronous communication

in the Teams channel). So to secure the continuity of development and sufficient open communication throughout the course, appropriate processes have been established, e. g., weekly virtual meetings (with follow-up asynchronous communication and collaboration) on all the stages of the course development following the principles of iterative improvement, assessment and implementation, which resulted in better communication among the teachers/instructors and improved satisfaction among the students in the second course run.

Discussion and Outlook

International collaboration and joint pedagogical projects have high practical and strategic value in the context of higher education. While the outcomes and opportunities of traditional and virtual mobility and exchange may overlap, the digital format also serves equality by granting access to collaborative and innovative higher educational offers to individuals who may otherwise be disadvantaged because of economic and/or health conditions, geographic location, family and career commitments or priorities.

International collaboration like the one described in the present paper is based on dynamic negotiations, and having to make concessions on all levels – from teaching styles and instructional design, through institutional practices (course planning, curricular embedding, signing contracts and means of financing) to global strategic perspectives, like joint planning of the following few years. Although demanding in terms of resource allocation, establishing processes for collaboration on all levels is essential to develop a fitting international offer that meets the needs of a given target group on the one hand and reinforces the strategic goals of each partner institution involved on the other hand.

The target group of probably any VM course is heterogeneous by nature, not only because of diverse professional and career backgrounds and family status (which is often the case with FU, OU and JYU cohorts), but also in terms of cultural contexts and institutional practices that were addressed above (e. g., directedness of instruc-

tion, style of teacher-student communication, the level and depth of usual peer-interaction). At the same time, most virtual mobility offers among their aims and functions mention developing intercultural, international, and global competencies, including language skills and intercultural competencies for the globalized workspace and employability (BRUHN, 2020). Meeting these aims requires direct side-by-side international collaboration among the students and hence, a higher degree of "interactional synchronicity" (JOYNER et al., 2020, p. 17) which is not always the case with other, "domestic" distance courses. So virtual collaboration needs to be fostered through multiple aspects – appropriate instructional design like collaborative project-based scenarios with sufficient scaffolding and support; facilitating team work as early as possible in the course to provide enough time for productive independent collaboration; effectively organizing inter-team work for teams to exchange experience and feedback, learn from and with each other, connect and broaden the scope of the course they are taking.

Overall, it can be concluded that strategic partnerships between universities in developing joint courses and programs have high potential to link curricula and provide opportunities of rich international learning for most student cohorts, thus contributing to local growth and development.

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