

DESIGNING COURSES WITH DIGITAL TECHNOLOGIES

INSIGHTS AND EXAMPLES FROM HIGHER EDUCATION

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Chapter **6**

Problem-Based Learning in International Online Groups

*Alastair Creelman, Maria Kvarnström, Jörg Pareigis,
Lars Uhlin and Lotta Åbjörnsson*

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*Alastair Creelman, Maria Kvarnström, Jörg Pareigis,
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BACKGROUND

Open Networked Learning (ONL) is a learning-by-doing online course for educators in higher education who wish to develop their skills in designing and teaching collaborative online courses. It was developed in response to a growing need for courses dealing with online teaching and learning. Furthermore, it is a result of educational developers looking outside their own universities to collaborate within their network of colleagues nationally and internationally. Instead of each institution running its own internal course, the partner institutions collaborate on a common course that offers both internal professional development and practical experience of virtual mobility. Educators gain the opportunity to engage in learning and collaborating with colleagues from universities around the world in multidisciplinary groups with problem-based learning as a foundation.

The course is run in a unique collaboration between currently 14 institutions from six countries (Sweden, Finland, Germany, Switzerland, South Africa and Singapore) with approximately 100 participants per iteration. In addition, the course also accepts a limited number (20–30) of open learners representing, over the years, a further 25 countries. Institutional participants are credited for 80 hours of professional development from their own institutions. Open learners are awarded certificates for completing the course.

In line with its name, the course is offered on an open platform (WordPress) and under a Creative Commons license (CC BY-NC). All course material is openly available, and even unregistered learners can follow the course, though they are unable to participate in the community discussions

and problem-based learning group work. The course adopts a layered approach to openness using public spaces such as the course site, Twitter chats and the participants' reflective blogs, while other more closed spaces such as the course and group communities are restricted to registered participants. This gives participants the opportunity to interact and share on a micro, meso and macro level.

DIGITAL LEARNING ACTIVITY

The main digital learning activity is collaborative investigation and problem-solving in online mixed groups of six to eight participants, supported by a facilitator and a co-facilitator. Facilitators, mostly educational developers and previous ONL participants, are recruited from participating institutions, while co-facilitators are previous participants who want "a second helping" of the course, offering their time voluntarily to support a group. The co-facilitators are awarded a certificate describing their role, and this can be considered as contributing to their professional development. The groups meet twice weekly over 12 weeks, giving ample time to build relationships and collaboration, and collaborate both synchronously and asynchronously, investigating a succession of topics relating to online teaching, learning and networking. Each topic is presented on the course site with suggested resources and a scenario as a point of departure. Common course events, such as webinars with invited guests as well as Twitter chats, are offered to scaffold and support learning in the groups. The groups are encouraged to share the outcome of their work, in the form of digital artefacts, with the course community.

Individual blogs with posts for each topic go hand in hand with the group inquiry, as an opportunity for individual reflection on both the content and the learning process. Peer commenting on the blog posts is encouraged and further increases the level of interaction.

The course draws on and combines the ideas and pedagogical frameworks of problem-based learning (PBL) and networked learning (NL). The key learning principle behind PBL that we put into play is to view learning as a constructive, collaborative, self-directed and contextual process (Savin-Baden, 2014). To guide the problem-solving process, a simplified version of the seven steps often used in PBL settings, called FISH (Focus, Investigate, Share) developed in an earlier collaborative course (FDOL, Flexible, distance and online learning, Nerantzi & Uhlin, 2012), is applied in the groups. NL is defined as situations in which information and communications technology are used to promote connections between one learner and other learners, between learners and tutors and between a learning community and its learning resources and has positioned itself, according

to Hodgson and McConnell (2019), as an important aspect in higher education.

Another theoretical cornerstone for the course and one of its topics is the community-of-inquiry (CoI) framework. In short, the framework suggests that several different kinds of presence are needed for a CoI to develop – teaching, cognitive and social (Vaughan, Cleveland-Innes, & Garrison, 2013). The pedagogical design of ONL ensures these are in place to scaffold the emergence of such communities (Vaughan et al., 2013).

One intention in designing the course is to develop a community of practice (Wenger, 1998) that can enhance understanding of what personal learning networks (PLNs) and environments can mean and how these can be built. This has recently been put forward as an important strategy for continuing professional learning of educators (Oddone, Hughes, & Lup-ton, 2019). Within ONL, work in and between the groups utilizes the networked nature of the Internet as well as the social interaction to help build PLNs, i.e., networks of people, information and resources strategically developed by each participant to access informal learning.

EVALUATION

The course has an iterative design process and continuous quality-improvement cycle in which evaluation is carried out on several levels, namely:

- Reflection from PBL group discussions during the course.
- Participant course evaluation.
- Course team evaluation (facilitators, co-facilitators and institutional coordinators).
- Data from course webinars and participants' blogs.

Participant feedback has been extremely positive, with many claims that the course changed the participants' outlook on teaching and learning online, in particular in terms of collaboration, openness and networked learning. The concept of ONL is described as *a Course, Community and Approach*, and the main evaluation findings from both participants and course team reflect this.

For example, one participant summed up the experience as follows:

With the journey of two weeks, the affiliation and the bonding with the ONL community is building quickly by group meetings, the webinars and the interactive tools like Zoom, Padlet and the individual chats with you. The open networked learning course has removed the thousands of kilometres distance of my location (Lahore, Pakistan) from the locations of all of you. It's an unforgettable journey of my life towards knowledge.

The course design and topics follow and guide the participants' learning process, both experiencing and learning about the topics at the same time; learning by doing. Among the most common themes raised in evaluations are the following:

- The value of collaboration (both synchronous and asynchronous) in the PBL groups and the role of the facilitators in establishing a collaborative and supportive climate.
- The opportunity to experience a course from a student perspective and thereby gain insights into how participants' own courses might be experienced.
- The value of diversity. Despite different academic and cultural backgrounds, all participants actually faced very similar problems.
- The course promoted learning by doing and established a good balance between practice and theory.
- Participants gained new insights into the role of communities and networks in both teaching and learning.
- The value of scaffolding in terms of the support available from facilitators and other participants as well as the many guides and videos available on the course site and communities.

Among the concerns raised were the lack of time available for participants due to heavy work commitments and some confusion, at least initially, around the different platforms and tools used in the course. The retention rate for the course is, on average, 78%, and as many dropouts as possible are followed up. In almost all cases, the causes for noncompletion have been heavy workloads, illness or other unexpected events, uncontrollable external events outside of our or the participants' control.

The course has also been studied using the CoI framework to investigate learners' interaction and their perceptions of teaching presence, social presence and cognitive presence (Saadatmand, Uhlin, Hedberg, Åbjörnsson, & Kvarnström, 2017). Survey results showed that participants had high perceptions of these three presences. The results indicate that providing a set of online learning spaces combined with pedagogical course design and facilitation can promote learner interaction and collaboration. These presences seem particularly important in an online environment where visual cues and physical presence are largely absent.

A number of significant enhancements to the structure of the course have also resulted from feedback:

- A two-week acclimatization period was added at the start of the course to allow learners to become comfortable with the course platforms and get to know their PBL group, in line with the Five Stage Model proposed by Salmon (2013).

- The inclusion of a reflection week to allow participants to catch up and thus enhance retention rates.
- The introduction of the co-facilitator role allowed course alumni to return as study buddies offering help from a learner's perspective.

CONCLUSIONS AND FUTURE DEVELOPMENT

ONL has shown not only that collaborative PBL is possible in an online setting but that the collaboration level and sense of community can be deeper than in many campus-based equivalents. ONL is an extremely complex course to run since it involves online coordination and co-creation between course organizers and facilitators from different institutions around the world. It has grown organically over the years, and interest in the concept is still growing. However, the model is not easy to scale, since the quality is dependent on establishing a common course ethos and methodology among all the facilitators and co-facilitators. The role of the facilitators is crucial to the success of the course, since they are responsible for establishing a sense of community and trust in the PBL group. In order to ensure a common approach and facilitation style, there is an extensive course guide for facilitators and co-facilitators as well as a preparatory online meeting in which guidelines and routines are presented and discussed and regular online meetings during the course to discuss progress and facilitation issues.

Future challenges include finding a sustainable model for some kind of “franchising” in which other partnerships can offer an adapted version of ONL under the course's Creative Commons license. Such new partnerships would have access to our course guides and support material as available on the main ONL website. Many participants have raised the option of a follow-up course, and although this would be an attractive proposition, the course organizers have so far not been able to find the time to develop this idea. In this case, perhaps new partnerships can be developed to build on the success of ONL.

The course has had extra relevance in the wake of the COVID-19 pandemic, since most teachers have now gained at least basic experience of online education and feel motivated to learn more and design more engaging and collaborative courses. Current trends indicate that the future of education lies in successfully blending campus and online education, and therefore, courses like ONL will have an important role to play in teacher development in years to come.

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