# How to design and orchestrate a MOOC as a collaborative knowledge community

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## The Course: Technology and Inquiry for In-Service Teachers

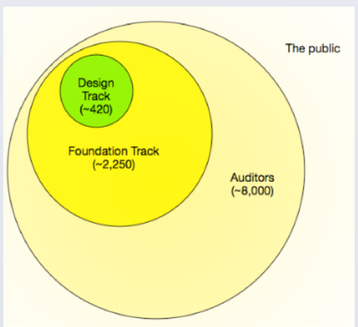
INQ101x, which ran on EdX in the summer of 2015, was designed to support in-service teachers in their efforts to integrate inquiry and technology into their lessons. It was explicitly marketed to in-service teachers, and was designed to build upon their professional experience and respond to their real challenges, providing tools, examples and approaches that could be directly applied within their professional settings.

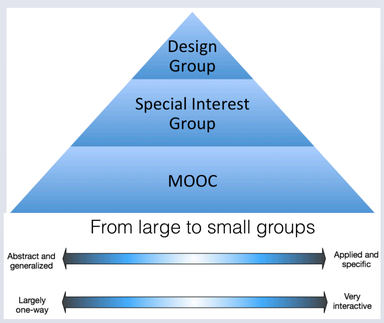


We employed a principled approach to developing the learning environment and curriculum, based on the Knowledge Community and Inquiry model (Slotta, 2012). We sought to create a collaborative knowledge community, where teachers would be able to connect with relevant peers and share professional resources. While inspired by the connectivist MOOCs, we were simultaneously concerned about providing enough support and scaffolding to lead the students to meet specific learning goals, and not get lost in a confusing and too open-ended learning environment.

## The Design: Two strands, interconnecting scripts

Students in MOOCs come with very different expectations and commitment. We wanted to cater to both learners who wanted to follow a more traditional MOOC (videos and discussions), and learners ready for a more intensive experience of working in small teams to produce a scaffolded collaborative product. But we also wanted to ensure that both these groups mutually benefitted from each other's participation.

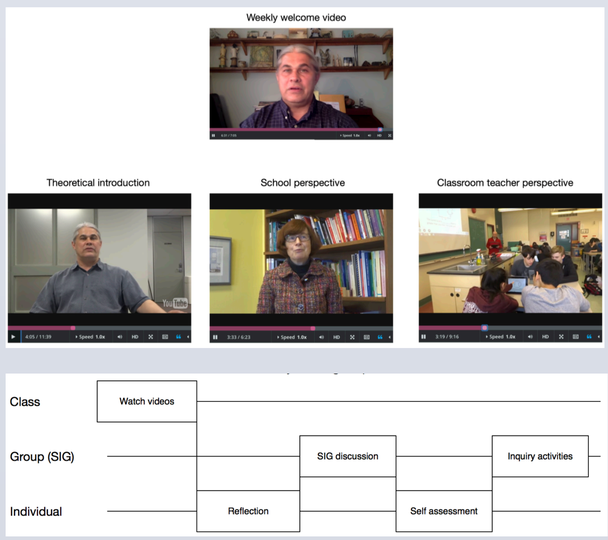


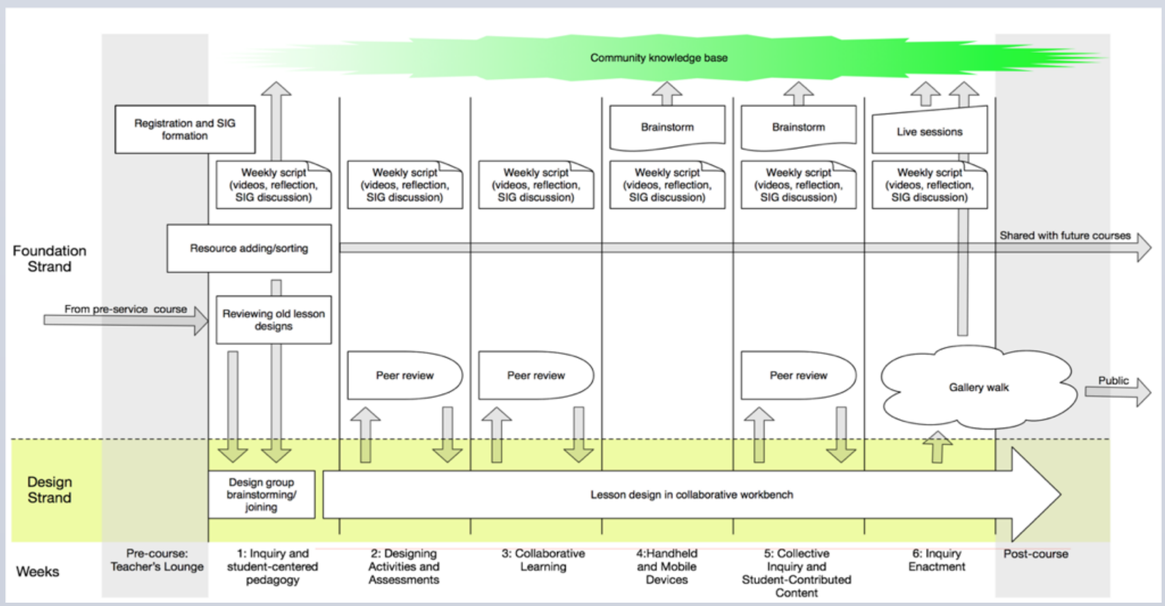




The course had a consistent weekly structure shared by all learners, and oriented around a weekly theme, such as collaboration. Students were split into a hierarchy of groups – Special Interest Groups (2-400 students) of for example all physics teachers, who could apply course theories to a specific domain, and the small lesson design groups (3-6 people) where people co-constructed a project. As the group size goes down, abstract ideas become more applied, and interaction increases.

The weekly activities around a common theme prepared students for the inquiry activities, which consisted of inter-dependent scripts, as shown below.

For example, a student might have watched videos about collaborative learning, done a personal reflection on collaborative learning, discussed in his Special Interest Group, and then in the weekly inquiry activities, is asked to peer-review an in-progress lesson design: "How can this lesson design incorporate more collaborative learning".

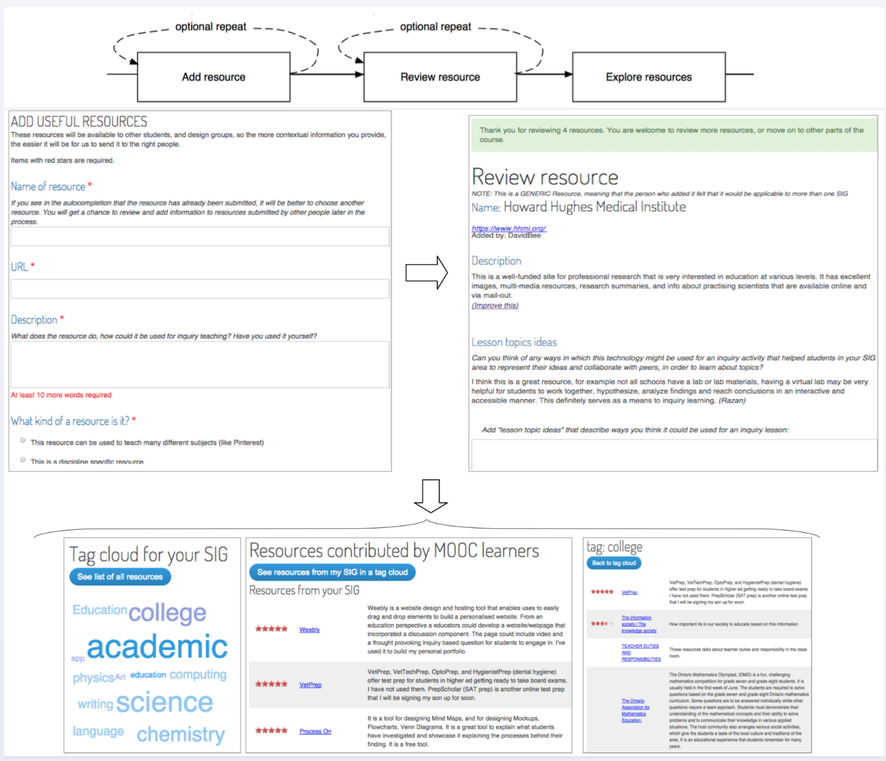


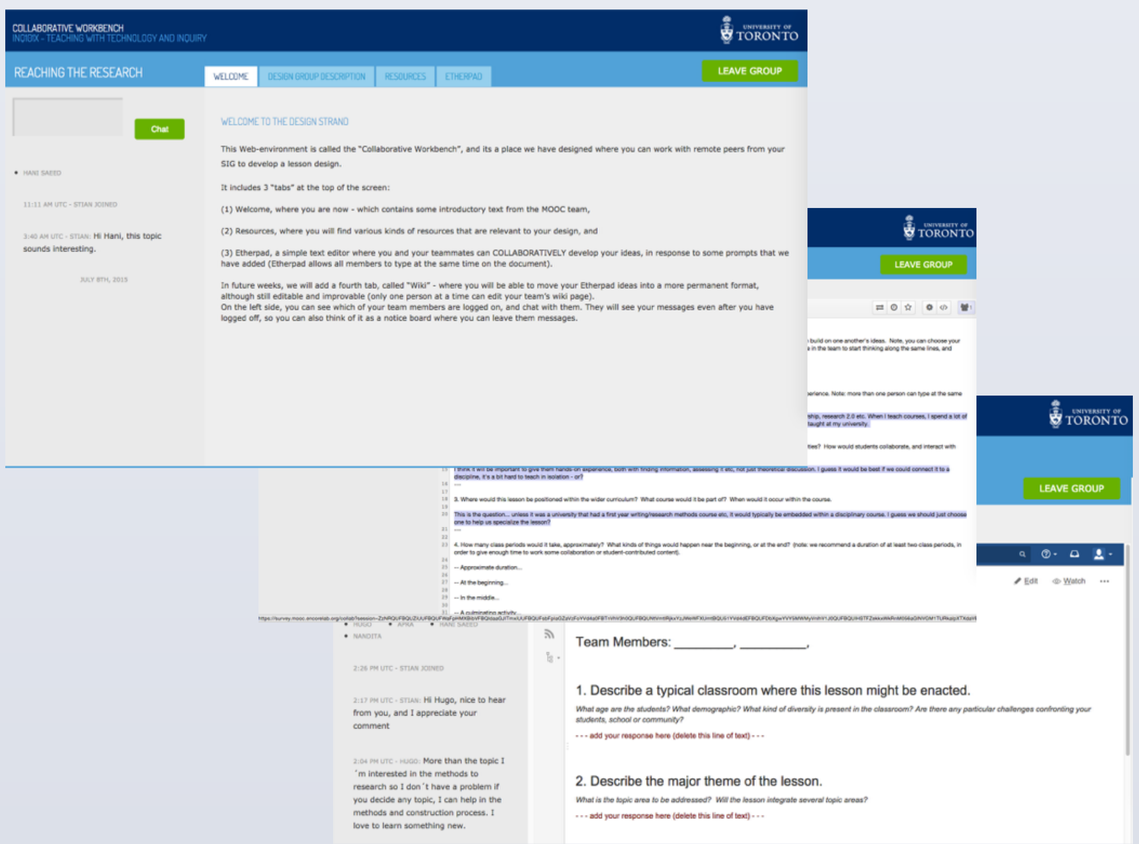

## Example activity: Crowd-sourcing and processing resource links

Students began by submitting relevant resources in the weeks before the course began. These were grouped by SIG, except for general resources (like Google Docs).

The next step was reviewing, commenting and ranking. With very little individual effort, we had thousands of resources, organized and tagged, which served as input to the lesson design groups.




## Collaborative Workbench: Supporting small teams in MOOCs

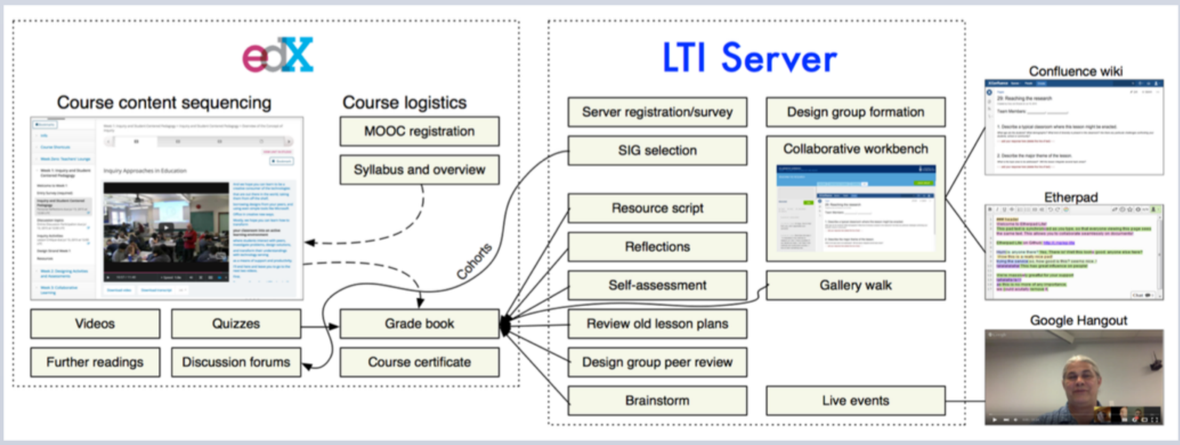



To enable small teams of students who had never met to do complex creative work together, we designed a collaborative workbench, which aimed to present all the relevant information and tools required in a single interface.

Students began with a weekly welcome message, outlining the weekly task. Some tabs featured ideas from the other students, such as crowd-sourced resources, or peer-review feedback. Etherpads (collaborative writing tool) were used as internal scratchpad, supplied with new prompts each week, and a wiki page was used to capture the public product in progress. We added new headlines (prompts) to the lesson design template each week, reflecting the growing sophistication of the design task (from topic and target group, to pedagogy, collaboration, assessment, equity, etc).

## Technology configuration, embedding external tools in EdX

We built a number of external activities, which we integrated into EdX using the LTI protocol. The activities all lived on the same server/database, and thus individual activities had access to all student information about group affiliation, previously seen work, interest-based tags etc.

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