

# 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



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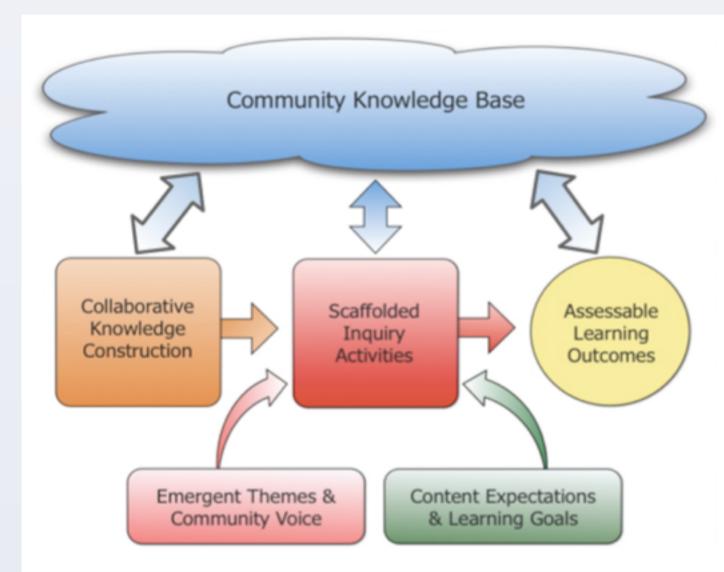
COURSES

challenges, providing tools, examples and approaches that could be directly applied within their professional settings.

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

Students began by submitting relevant Add resource Review resource Explore resources resources in the weeks ADD USEFUL RESOURCES hese resources will be available to other students, and design groups, so the more contextual information you prov the easier it will be for us to send it to the right people. before the course tems with red stars are require Keview resource began. These were Name of resource NOTE: This is a GENERIC Resource n the autocompletion that the resource has already been submitted, it will be better to choose anoth Name: Howard Hughes Medical Institute resource. You will get a chance to review and add information to resources submitted by other people later in the grouped by SIG, https://www.hhmi.org Added by: DavidBee except for general URL \* his is a well-funded site for professional research that is very interested in education at various levels. It has excelle nages, multi-media resources, research summaries, and info about practising scientists that are available online and resources (like via mail-out. (Improve this

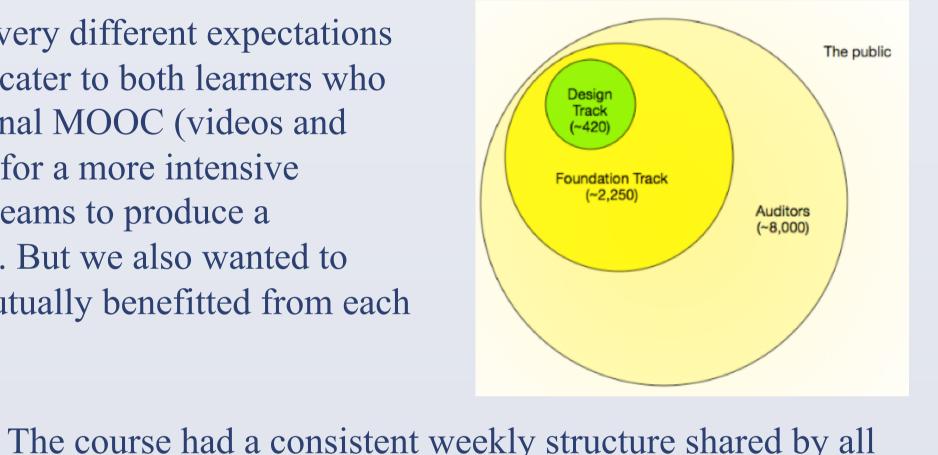


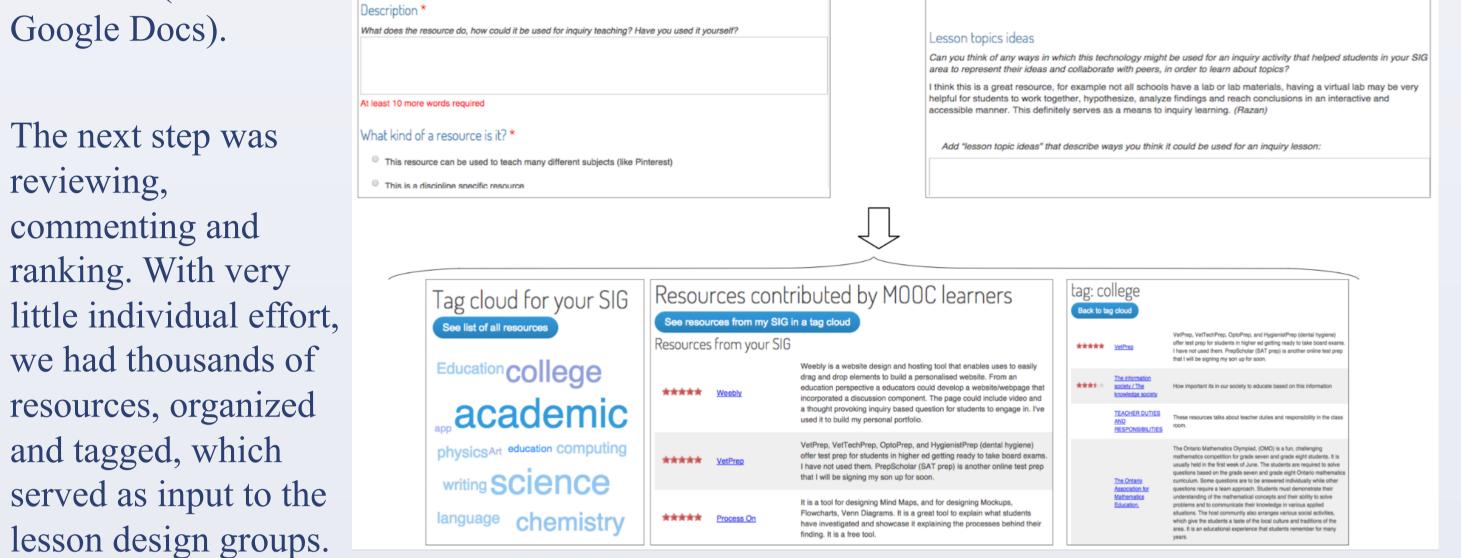


We employed a principled approach to developing the learning environment and curriculum, based on the Knowledge Community and Inquiry model (Slotta, 2012). We sought to create a collaborative knowledge community, where teachers would be able to connect with relevant peers and share professional resources. 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

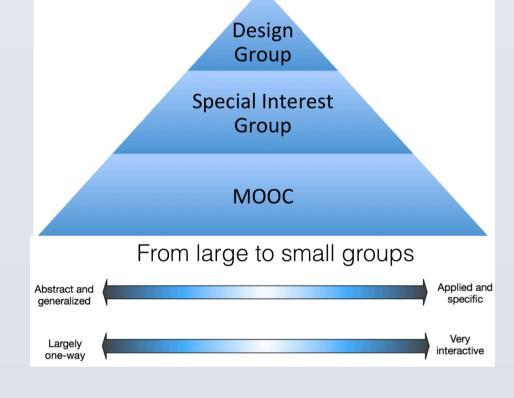
Students in MOOCs come with very different expectations and commitment. We wanted to cater to both learners who wanted to follow a more traditional MOOC (videos and discussions), and learners ready for a more intensive experience of working in small teams to produce a scaffolded collaborative product.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





#### **Collaborative Workbench: Supporting small teams in MOOCs**

| COLLABORATIVE WORKBENCH<br>INQ10IX - TEACHING WITH TECHNOLOGY AND IN | IQUIRY  | TORONTO  |
|--|---|--|
| REACHING THE RESEARCH  | WELCOME DESIGN GROUP DESCRIPTION RESOURCES ETHERPAD   | LEAVE GROUP  |
| HANE SAEED 11:11 AM UTC - STIAN JOINED                               | WELCOME TO THE DESIGN STRAND<br>This Web-environment is called the "Collaborative Workbench", and its a place we have de<br>SIG to develop a lesson design.<br>It includes 3 "tabs" at the top of the screen:<br>(1) Welcome, where you are now - which contains some introductory text from the MOOC   | team,  |
| 3:40 AM UTC - STIAN: HI Hani, this topic sounds interesting.         | (2) Resources, where you will find various kinds of resources that are relevant to your desi<br>(3) Etherpad, a simple text editor where you and your teammates can COLLABORATIVELY<br>have added (Etherpad allows all members to type at the same time on the document).   | - TOKONI   |
| JULY 8TH, 2015   | In future weeks, we will add a fourth tab, called "Wiki" - where you will be able to move yo<br>although still editable and improvable (only one person at a time can edit your team's wiki<br>On the left side, you can see which of your team members are logged on, and chat with th<br>logged off, so you can also think of it as a notice board where you can leave them message | our Etherpad ideas into a more permanent format,<br>i page).<br>rem. They will see your messages even after you have 🛛 🛱 👁 💠 👹 |
|  |   | perience. Note: more than one person can type at the same<br>ship, research 2.0 etc. When I teach courses, I spend a lot e     |



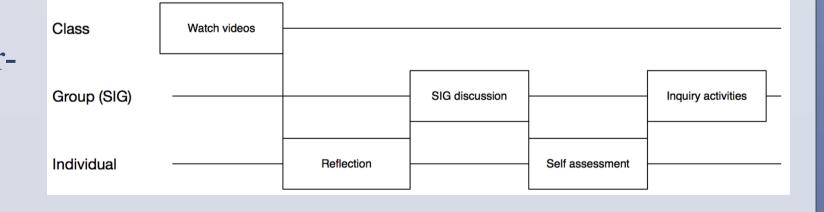
The weekly activities around a common theme prepared students for the inquiry activities, which consisted of interdependent scripts, as shown below.

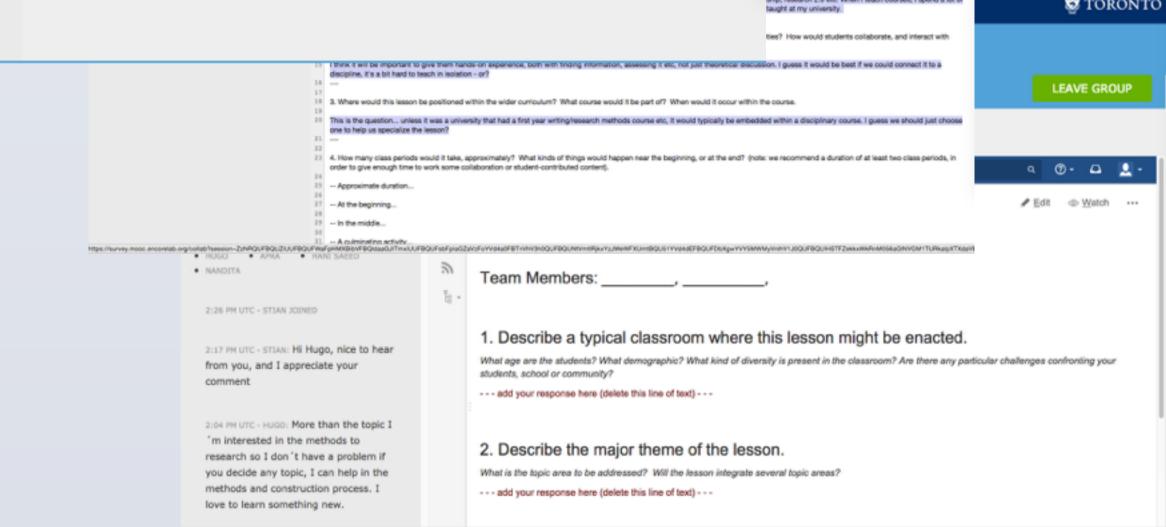
For example, a student might have watched videos about collaborative learning, done a personal reflection on collaborative learning, discussed in his Special Interest Group, and then in the weekly inquiry activities, is asked to peerreview an in-progress lesson design: "How can this lesson design incorporate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

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.



Theoretical introduction

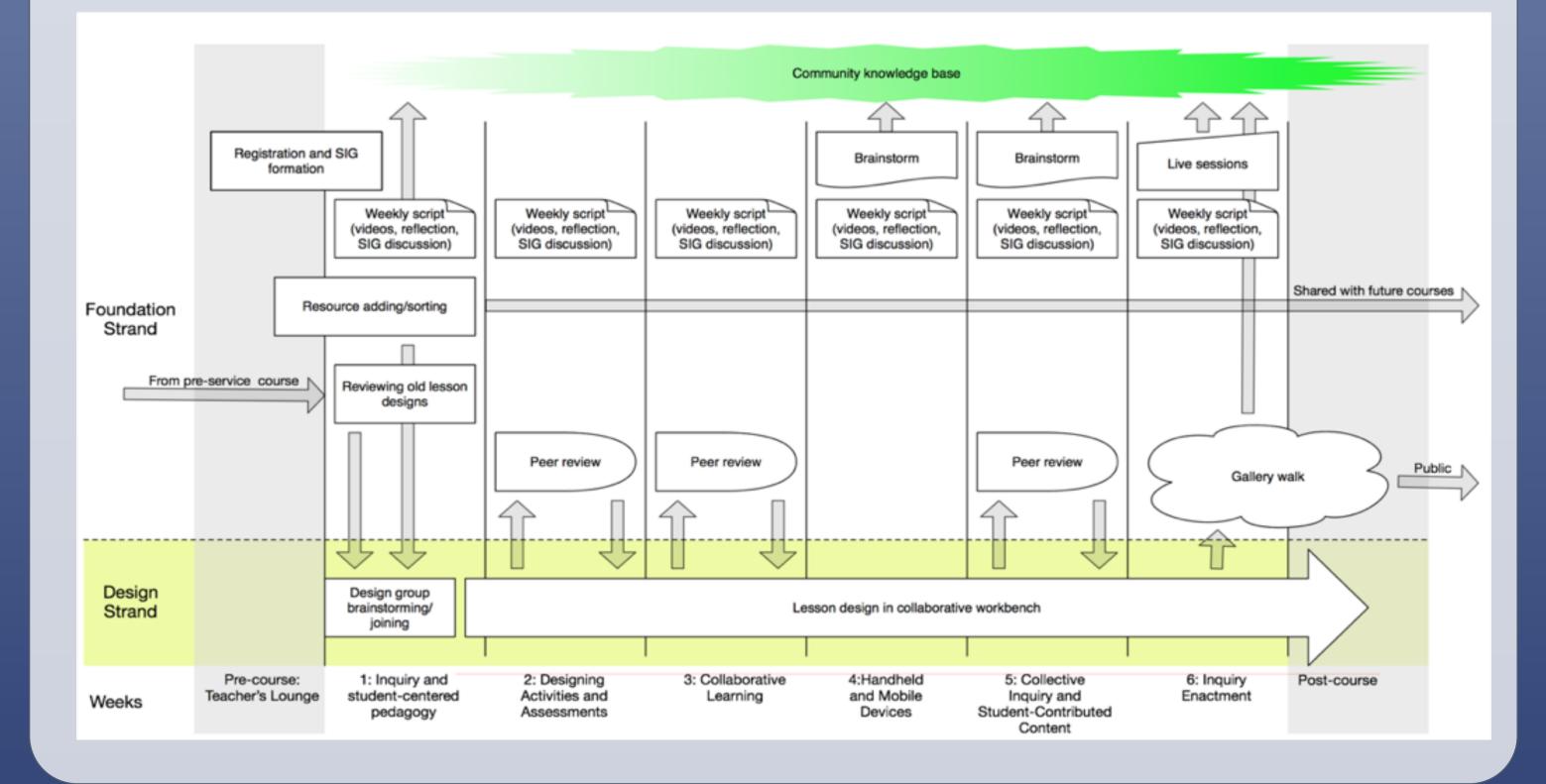




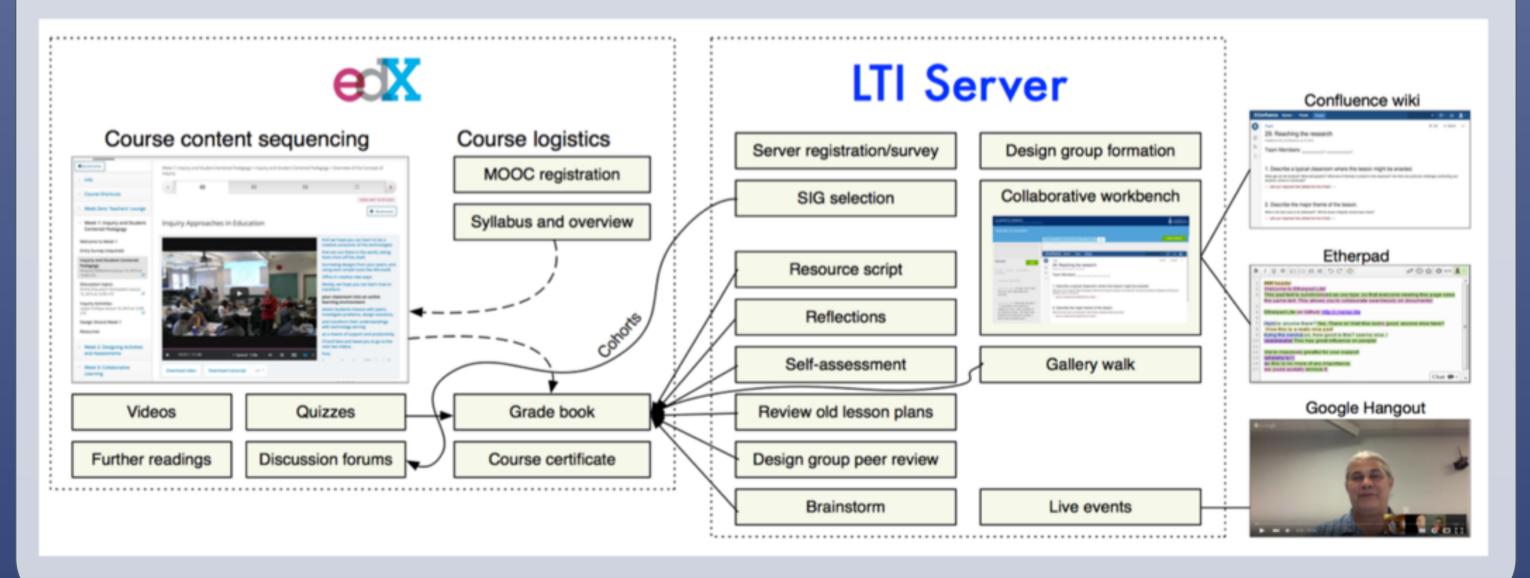
To enable small teams of students who had never met to do complex creative work together, we designed a collaborative workbench, which aimed to present all the relevant information and tools required in a single interface.

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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