T509 Massive the Future of Learning at Scale Partner Project Opportunities

1) Designing Custom Problem Types in edX with Javascript
2) Student Interview Research Project in 1368X- Saving Schools (HKS Education Policy Course)
3) Looking for Community Managers: MIT's EdTechX
4) Looking for MOOC Researchers: MIT's EdTechX
5) Best Practices for HarvardX
6) Evaluating Discussion Forum Strategies in GSE2x:Immunity to Change
7) Comparative MOOCology
8) Moving a Math MOOC from OpenEdX to an Independent Venture
9) Analyzing Student Feedback from ChinaX Parts 1-6
10) Evaluating the edX Annotation Tool in HeroesX
11) Statistical Examination of HarvardX Pre-Course Survey Data
12) Creating Self-Paced Online Learning About Technology for Educators
13) Understanding the Work and Role of Course Developers
14) Building Social Capital for Young Learners Through Technology

1) Designing Custom Problem Types in edX with Javascript

Project abstract: The goal of this project is to create a custom problem type within edX. There are already a number of existing problem types (e.g. multiple choice, numeric, formula, matching, etc.), but the more problem types we have available, the greater the variety of activities we can have students do in the course. Creating a custom problem type requires at least a novice proficiency in Javascript and jQuery.

Course or context abstract: These problems are not designed for one specific course - rather, they should be generally useful types of problems that can be adapted to a broad variety of courses.

It should be noted that custom javascript problems are necessarily limited in scope by the fact that they run entirely within one user's web browser - for instance, it would be difficult or impossible to create a custom problem in which multiple students work together.

Project outcomes: Students will code, test, and create examples of a new type of problem within edX. The problem does not need to be deployed in an existing course, but it wouldn't hurt.

Preferred qualifications: Students should have at least a novice understanding of the Javascript programming language and of the jQuery library. Completing the Javascript and jQuery courses on Codecademy.com would be sufficient, though greater expertise is always better.

Project manager: Colin Fredericks, HarvardX

2) Student Interview Research Project in 1368X- Saving Schools (HKS Education Policy Course)

Project abstract: Looking to interview approximately 30-50 MOOC learners at three different intervals: beginning, middle, and end of the mini-course (mini-course runs for 6 weeks). Important because we are interested in a) possible iterative changes to make going forward for three future mini-courses and b) we also want to have a measure of student political engagement and see if this mini-courses has any affect on that.

Course or context abstract: 1368x.1: First of four mini-courses about United States Education Policy and Politics. Focus of this mini-course is on the historical causes that have created the current educational situation.

Project outcomes: Good base of qualitative research for the next three mini-courses -- and HarvardX as a whole -- in order to inform potential changes to how content is presented.

Preferred qualifications: No requirements, though any previous experience in conducting qualitative research would be great.

Project manager: Drew Lichtenstein*, HarvardX

3) Looking for Community Managers: MIT's EdTechX

Project abstract: Looking for Community Managers: before the course launches you will help draw out guidelines for students participating in forum discussions as well as course staff moderating the forums. We'll need to think about how to encourage constructive feedback on project work as well as how to enable meaningful connections in a massive course. During the course you will put those ideas into practice, helping moderate and participate in the course forums. This is an essential piece because in this course we place little importance on grades, instead emphasizing the community experience and peer feedback as part of the iterative design process.

Course or context abstract: MIT 11.132x: Design and Development of Educational Technology

This project-based course explores educational technologies and the theories underlying their development through interviews with experts in the field. To be effective, educational technologies must be designed based on what we know about how people learn. Through interviews with multiple experts in the field, this course examines educational technologies, outlines the theories that influenced their development, and examines their use. The course leads up to a final project – a kickstarter style pitch for a new educational technology - which is worked on iteratively across the weeks. It involves active weekly participation.

Project outcomes: Students will create a set of forum guidelines for participants in a community-based and project-based MOOC. They will gain experience moderating an online learning community and come away with an understanding of the challenges and benefits this can have.

Preferred qualifications: Should have an interest in both the course topic (educational technology) and in how online community can be used to improve pedagogy and enable a successful project-based MOOC.

Project manager: Jenn Groff*, MIT STEP, MITx

4) Looking for MOOC Researchers: MIT's EdTechX

Project abstract: Looking for MOOC Researchers: you will choose an aspect of this course that you would like to explore and conduct a mini research project on it. The first part of the semester, before the course launches, will be spent identifying the research question, figuring out what data you can collect to answer it, and designing your research instruments. This could involve EdX platform data, forum posts, course artifacts (student projects), skype interviews, surveys, etc. Once the course launches you will have a few weeks to recruit participants if necessary and do your data collection, then analyze your data. If applicable, the results could inform the second half of the course and have a real impact on the running of this and future iterations of it.

Course or context abstract: MIT 11.132x: Design and Development of Educational Technology

This project-based course explores educational technologies and the theories underlying their development through interviews with experts in the field. To be effective, educational technologies must be designed based on what we know about how people learn. Through interviews with multiple experts in the field, this course examines educational technologies, outlines the theories that influenced their development, and examines their use. The course leads up to a final project – a kickstarter style pitch for a new educational technology - which is worked on iteratively across the weeks. It involves active weekly participation.

Project outcomes: Students will design a small study including research questions, a research method, and data collection instruments. They will conduct the study, analyze the data, and write up the results into a short report.

Preferred qualifications: Should have an interest in MOOC research and in how MOOCs can take advantage of non-traditional teaching styles such as social learning and peer-reviewed projects.

Project manager: Jason Haas, MIT STEP, MITx

5) Best Practices for HarvardX

Project abstract: We often hear, we know best practices for learning, why don't we just put them into practice. If that's the case, why not create some sort of best practices document that everyone can use? Students in this project will identify several dimensions of practice in HarvardX course, and research multimedia teaching/learning best practices for use by the HarvardX team.

Course or context abstract: This research should be conducted across a range of HarvardX courses.

Project outcomes: This project would start with rigorous research and end with something that the HX team can use as a reference.

Preferred qualifications: N/A

Project manager: Heather Sternshein, HarvardX

6) Evaluating Discussion Forum Strategies in GSE2x:Immunity to Change

Project abstract: GSE1x is unique because it is a personal development course (not an academic course); students strive to get better at an important personal goal.

A qualitative project about best practices in discussion forums. Students could be involved in monitoring the discussion forums during the running of the course (Sept 16-Dec 15) as well as researching other discussion strategies.

Course or context abstract: Do you have a personal improvement goal that has proven resistant to your sincerest intentions, smartest plans, and best efforts? If so, then this course is for you. Last spring, we kicked off a world-wide experiment to see if Kegan and Lahey's ground-breaking, award-winning approach (the Immunity to Change process) could be deployed online to help tens of thousands of people make lasting changes at work or in their private lives. The experiment was largely a success! Many participants succeeded at making important changes in their lives. This fall, we invite you to join us in a continuation of this experimental personal development course. Via demonstrations, exercises, readings, personal experiments, and novel interactive tools, this course will teach you new psychological theory about personal change, but—more than this—it will engage you in applying that theory to yourself from the first class to the last.

Project outcomes: Report on the strengths/weaknesses of current forum design (possibly last year's forum as well) -- what are the trends observed? how can we reach more students with our investment there? Report on current best practices for MOOC discussion forums and alternatives to discussion forums. Investigation of other platform strengths/weaknesses.

Preferred qualifications: None in particular, though experience with online teaching is a plus

Project manager: Katie Heikkinen*, HGSE, HarvardX, GSE2X

7) Comparative MOOCology

Project abstract: We are looking for a group of student interns to continue doing an analysis of the MOOCs landscape--what one of our project leads termed "comparative MOOCology". The project entails spending the semester taking 2 or more MOOCs in an effort to help answer a set of specific questions that have been pre-defined by HarvardX staff. An example question might be: how do humanities courses use peer review in their assessments? The answers to these questions will help to inform course development going forward.

Interns will be broken up into smaller groups to focus on MOOCs in a specific discipline (e.g. arts & humanities, social sciences, etc.). Each group will take one common MOOC and then group members will take a second MOOC of their own choice. Project interns will be expected to meet with the group for an hour on a weekly basis. At the start of the semester, weekly meetings will include the whole group. Once smaller groups are formed, these weekly meetings will turn into smaller working group sections for the majority of the hour.

Course or context abstract: This work will benefit the larger HarvardX organization, particularly as we continue to develop new online learning experiences. HarvardX is a strategic, university-wide initiative to supporting faculty innovation in the use of technology in teaching & research on campus, online, and beyond. For more information, please visit: http://harvardx.harvard.edu/.

Project outcomes: Once a month one of the small groups will be expected to present their findings and ongoing conversations to the entire group; over the course of the semester each of the groups will have a chance to present. These presentations will take the form of workshops, with interns speaking for 20 minutes and leading conversations for the remainder of the time. We will invite HarvardX staff and other relevant/interested community members to attend these sessions.

As a final deliverable, each group will be asked to write a group white paper answering the question(s) they have been studying throughout the semester.

Preferred qualifications: None required, although if they have taken (or even perused) MOOCs before that might be a helpful leg up.

Project manager: Valerie Beilenson, HarvardX

8) Moving a Math MOOC from OpenEdX to an Independent Venture

Project abstract: I'm an adviser to a math education professor at Stanford University named Jo Boaler. She has already run several large (~20K participant) MOOCs through the university. She is looking to case out options for a platform for similar professional development options under her own label. I need help figuring out which existing options best meet her use case.

Course or context abstract: N/A sort of. These will mainly be one-week-long professional development opportunities for math teachers. Boaler's work is around equity, discourse, and practice in math classes.

Project outcomes: We'll chat about Jo Boaler's requirements and specs. You'll do a great job interviewing me, asking questions I wouldn't have thought to ask. Then you'll take all of those specs and make a few recommendations of online education platforms.

Preferred qualifications: N/A

Project manager: Dan Meyer, YouCubed, Stanford

9) Analyzing Student Feedback from ChinaX Parts 1-6

Project abstract: Student will assess learners needs, goals and experiences in Mini-Courses 1-6 compared with course learning goals for each module. The student will analyze feedback from mini-course surveys and weekly surveys to form conclusions about learners. Student will also assess learner needs, goals and experiences compared with course learning goals for each module. Learners enrolled in Mini-Course 7-10 will also be asked in pre-course survey if he or she wants to participate in an interview with course staff.

Course or context abstract: Modern China presents a dual image: a society transforming itself through economic development and infrastructure investment that aspires to global leadership; and the world's largest and oldest bureaucratic state, with multiple traditions in its cultural, economic, and political life. The modern society and state that is emerging in China bears the indelible imprint of China's historical experience, of its patterns of philosophy and religion, and of its social and political thought. These themes are discussed in order to understand China in the twenty-first century and as a great world civilization that developed along along lines different from those of the Mediterranean.

ChinaX is composed of 10 "Mini-Courses" that collectively span over 6,000 years of history. Each mini-course consists of 4 to 8 weekly "modules," each with videos, readings, interactive engagements, assessments, and discussion forums. Mini-courses are self-paced and learners can enroll at any time.

Project outcomes: Students are expected to provide an overview on learner's perceptions of what they learned compared to instructor's goals of what learners should have learned.

Students are expected to provide concrete recommendations:
- to bridge any gap between student learning outcomes and instructor learning goals
- to recalibrate instructor learning goals (if they appear unrealistic/mismatched)
- to reach instructor learning goals

Preferred qualifications: Students should have an interest in qualitative analysis and open to learning new things. Students should have an interest in learner outcomes in relation to instructor learning goals.

Project manager: Meghan Morrissey*, Tiffany Wong*, Junjie Liu*, ChinaX, HarvardX

10) Evaluating the edX Annotation Tool in HeroesX

Project abstract: HeroesX is one of the first courses to make extensive use of the edX Annotation Tool, a system for allowing students to directly engage with text. Annotations and marginalia have been central to study in the humanities for millennia, so this is an exciting innovation. We are looking for students who can help provide real-time feedback on our use of this tool, feedback that can be used both by future courses and by our own course team as we adjust throughout the semester.

In this project, students will participate in HeroesX as students, participate in annotation exercises, search the discussion boards for feedback, interview or survey students, and conduct other research to better understand how we can best refine our use of the annotation tool. From that data, students will provide suggestions for the design of activities, the design of the user interface, and the design of the tool itself to improve student learning in the humanities through annotation.

Course or context abstract: Though the annotation tool is used in several courses, here's the description of HeroesX:

HUM 2.1x. The first of five modules on The Ancient Greek Hero, “Epic and Lyric” looks at ancient Greek heroes from the perspective of two different but related media of poetry and songmaking, epic and lyric. The major focus is Achilles, especially as viewed through the lens of the Homeric Iliad and through the “rose-colored glasses” of Sappho’s songs. While the epic of the Iliad is typical of verbal art that is performed by and for men, the lyric songs of Sappho derive from traditions of singing performed mainly by women of all ages, including adolescents about to be initiated into womanhood. These “women’s traditions” are best known for two kinds of singing, laments and love songs, which are interchangeable in contexts that will surprise the modern mind. Another surprise, as we will see, is that the Iliad too contains embedded “quotations” of such laments and love songs, and that our first impression of this epic as a “men’s tradition” obscures the fact that Homeric poetry channels the songs of women as well as men. A perfect expression of such “channeling” is the figure of Achilles himself, who was admired by Greek song culture as a virtuoso singer of laments and love songs in his own right. An analysis of Homeric passages that “quote” the singing of Achilles will be an integral part of our overall experience in close reading.

Project outcomes: T509 students will provide an evaluation our use of the annotation tool, offering feedback on the tool itself, how students in the course experience the tool, and how the use of annotations could be improved.

Ultimately, the project analysis should help HeroesX make modest in course changes to it's useful of the tool, and help HarvardX use the tool more strategically in the years ahead.

Preferred qualifications: None

Project manager: Jeff Emmanuel, HarvardX, HeroesX

11) Statistical Examination of HarvardX Pre-Course Survey Data

Project abstract: Over the past year, HarvardX researchers have used a common pre-course survey for all of our courses. We now have a dataset that allows us to compare students in terms of their intentions, motivations, preparedness, and certain demographic characteristics. This is a chance to examine this dataset and try to better characterize HarvardX learners and begin to examine how student characteristics predict important course outcomes.

Course or context abstract: The survey data includes responses from 9 courses conducted in the 2013-2014 school year.

Project outcomes: Develop a research question and pursue it over a semester, ending with a short poster/paper describes your finds and its implication for practice or policy.

Preferred qualifications: Students who have already completed intermediate statistics would have the best experience. It would be possible to practice some initial exploratory analysis with the dataset for students currently enrolled in S-030 or S-040.

Project manager: John Hansen, HGSE, HarvardX

12) Creating Self-Paced Online Learning About Technology for Educators

Project abstract: EdTechTeacher has a wide variety of online assets for teachers to learn more about using technology in the classroom: videos, slides, documents, web pages, etc. EdTechTeacher offers online courses for small cohorts of teachers from a single school or district, but currently has no courses that could be offered in a self-paced way to any learner. Students working on this project will evaluate EdTechTeacher assets, propose one or more strategies for creating a self-paced online learning experience that could be enjoyed by large numbers of students, and build prototypes or other documents to help envision the possibilities.

Course or context abstract: EdTechTeacher is a professional learning consultancy that works with schools and districts to help teachers leverage technology to create student-centered, inquiry-based learning environments.

Project outcomes: Students, acting as consultants, will propose a strategy for taking our latent online assets (videos, slides, etc.) and turn them into a more structured self-paced online learning experience.

Preferred qualifications: N/A

Project manager: Beth Holland, EdTechTeacher

13) Understanding the Work and Role of Course Developers

Project abstract: How is the role of the instructional designer evolving in the MOOC landscape and beyond? Drawing from instructional design literature, students will conduct interviews with members of the HX course staff to learn more about the role of instructional design in the MOOC course development process. Using the literature, students will compare MOOC course development process to more traditional online instructional design practice and make predictions on if/how the field of instructional design will/should change.

Course or context abstract: This study is not attached to particular course. This will be an opportunity to interview the individuals involved in "making the MOOC" and highlight their stories.

Project outcomes: Identify possible unique HX MOOC design approaches as compared to the general field of Instructional design
Identify ways the field of instructional design is changing in the wake of MOOCs
Offer a summary of questions for future study re: Instructional designs and MOOCs

Preferred qualifications: You have been accepted into the Ed.M program You are qualified!

Project manager: Rebecca Petersen, HarvardX

14) Building Social Capital for Young Learners Through Technology

Project abstract: My latest research will investigate how technology can serve to more efficiently expand students' social capital--that is, the network of peer and adult connections, guidance, and advice that students can bank on in their future. Students from T509-Massive will be researching a range of edtech tools geared towards mentoring, coaching, bringing experts into classrooms (over video), and connecting students to new peer groups beyond their school and neighborhood. The goal will be to create a market map of these products, understand their unique business models, and understand how they may or may not be disruptive to traditional education models in K-12 and higher ed.

Course or context abstract: The Clayton Christensen Institute is a nonprofit, nonpartisan think tank dedicated to improving the world through disruptive innovation. Founded on the theories of Harvard Business School professor Clayton M. Christensen, the Institute offers a unique framework for understanding many of society's most pressing problems. Our mission is ambitious but clear: work to shape and elevate the conversation surrounding these issues through rigorous research and public outreach. The Education Program at the Christensen Institute examines K–12 and higher education issues through the lens of disruptive innovation. Its research aims to transform monolithic, factory-model systems into student-centered designs that educate every student successfully and enable each to realize his or her fullest potential.

Project outcomes: This is part of a larger book project that I am just embarking on. In the short term, outcomes should include:
- Market map of edtech tools for building social capital, which includes of how these tools "plug into"/interface with existing education structures and their revenue models
- (time allowing) A synthesis of state and federal policies that allow for or prevent non-teacher adults from interfacing with students

Preferred qualifications: Interest in learning basics of disruptive innovation theory.
- Comfort focusing on non-academic, non teacher-led interventions

Project manager: Julia Freeland, Clayton Christensen Institute for Disruptive Innovation