

Educational Technology MITCET Update

Modularity Experiments

May 10, 2011

Background

In response to a charge from the Provost, the MIT Council on Educational Technology ([MITCET](#)) is thinking about how MIT could benefit educationally from increasingly available information online and increasingly fast and cheap communication, even globally. The Provost's charge comes against the backdrop of a technology landscape characterized by important influences such as mobility, cloud computing and virtualization, as well as an array of innovative educational technology activity at MIT which suggest opportunities for increased flexibility and new ways of teaching and learning in MIT's educational programs. *The overall goal is to enable more effective learning. At the Provost's request, we're looking for ideas that would be transformational and could fundamentally enhance and improve the student experience.*

Process:

Although this is a long-term activity, we plan to launch a small set (2-4) pilot experiments in the fall of 2011 at the undergraduate level, but including one at the graduate level. The focus will be on initiatives that could have broad scope and applicability across MIT. Funding for these experiments would be provided through the generous support of the Class of '60 in addition to resources from the Office of Educational Innovation and Technology and the Teaching Learning Lab.

The MITCET deliberations, informed by several faculty and student focus group meetings have led to *modularity* and the idea of providing experiences for students that are more modular and flexible both in time (not always organized into one-semester chunks) and geography (not always on campus), as the key areas to address through these experiments.

This emphasis enables us to experiment with educational delivery that might allow total immersion in a subject or integrate extensive research experience into a module or educate for a short time in an exciting geographic location. It would also allow the opportunity to personalizing the educational experience through Flexible Majors, and alternative/adaptive learning opportunities.

Overall the he experiments would demonstrate that that it is possible to inject modularity into the MIT curriculum in a way that:

- Allows students to be much more flexible with their educational and

professional planning

- Preserves the high quality of the educational experience
- Enhances the learning of the students

MITCET has been having discussions with departments to solicit ideas for specific activities/experiments in the fall. Some of the ideas being discussed include:

- Web-based, video-intensive, user-friendly bridges between modular concepts in early-stage courses and the same concepts in (a) upper level courses and (b) specific experiments in laboratory courses.
- A set of continuously available courses in areas of well defined core knowledge (e.g. statistics) via online tutors for self-learning
- Some part of a course to be done remotely. Group interaction can still be encouraged via Facebook like sessions.
- Scaling the reach of a course utilizing a combination of modularized content, various new technologies and teaching methodologies to include students from across the globe.

In thinking about next steps, we're motivated by the following questions, which we would expect the proposals to address:

- How will the proposed activity provide a more flexible educational experience for MIT students, what is the impact on the student experience, and how will educational technology be used effectively?
- What will we learn from each prototype, and how it will scale and transfer?
- How would the proposal fit into a long-term vision for where the department sees itself as moving in its educational model?

[Interim E-Learning Report](#) - Dec. 10, 2010

[Technology Enabled Transformation in the MIT Learning Experience](#) - May/June 2011

Professor Daniel Hastings, Chair, MITCET

Professor Hal Abelson, Co-Chair, MITCET

Dr. M. S. Vijay Kumar, Executive Officer, MITCET