

Just-in-time teaching

One of the most effective (and scalable) techniques in blended learning is called [just-in-time-teaching](http://en.wikipedia.org/wiki/Just_in_Time_Teaching) (http://en.wikipedia.org/wiki/Just_in_Time_Teaching)(JiTT). It is also one of the major areas of work in learning analytics. Roughly speaking, JiTT is a set of techniques for providing instructors with real-time feedback on what their students know, and where students are struggling. The two most popular forms of JiTT are:

- *Pre-class mini-exams*. Students take a small assessment the night before every class. Typically, these are graded on participation or count for minimal credit. The class is then geared to the places where students are struggling.
- *Clickers*. An instructor lectures for 5 minutes, and gives a [clicker](http://en.wikipedia.org/wiki/Classroom_Performance_Systems) (http://en.wikipedia.org/wiki/Classroom_Performance_Systems) quiz. The instructor sees the results of this in real time, and adapts the next segment of instruction based on what the class has mastered. Probably the most advanced form of this was pioneered by Eric Mazur at Harvard, under the name [peer instruction](http://mazur.harvard.edu/research/detailspage.php?rowid=8) (<http://mazur.harvard.edu/research/detailspage.php?rowid=8>). In Mazur's classroom, students participate in sophisticated in-class assessments on cell phones using technology developed by [a successful, recently acquired startup](https://learningcatalytics.com/) (<https://learningcatalytics.com/>) spun out of Harvard. Much like edX, LC has a rich set of assessments, but also has rich visualizations for class responses to those assessments (for example, click-on-an-image shows a heatmap of student responses). The software then partners students who got different responses to discuss (the peer instruction component). Students submit answers a second time.

JiTt has been used by edX instructors [to great effect](https://www.edx.org/blog/edx-spoc-online-backbone-flipped-college) (<https://www.edx.org/blog/edx-spoc-online-backbone-flipped-college>).

What would we need to develop to enable similar, rich in-class interactions?