Using E²Coach to Encourage Peer-to-Peer Learning

Nicole Michelotti, Jared Tritz, David Winn, and Tim McKay
Department of Physics, University of Michigan

What is E²Coach?
E²Coach (Electronic Expert Coach) is a website that delivers personal advice on how to succeed in a course to students. This system was implemented with large lecture classes in mind as they are the ones in which students get less individual attention. The information that the system uses to tailor specific messages to students is gathered primarily through surveys in the system.

Peer Advice

Research performed in the school of public health shows that people are more likely to follow advice if the advice comes from their peers. Therefore, most of the advice we deliver on the system comes from previous students who have taken the course. These were originally only Science Learning Center (SLC) study group leaders, but we have started requesting that students currently using the system provide advice for future students.

Tournaments: Peer Review in an Upper Level Physics Course

The tournaments, a learning tool offered through E²Coach, enables students to anonymously rank the work of their peers. Students submit a pdf of their work to the system by a given date. Once the homework is submitted, the students then are asked to compare the work of two of their peers, leaving comments on why they ranked one higher than the other. They make this head-to-head comparison three times. They are then shown the rankings along with the comments. The homework in this course is offered as extra credit. The students who are ranked in the top third get a little more credit than the middle third who get more credit than the bottom third.

Results

One of our main questions is yet to be fully answered is how well can students, who are still learning the material themselves, identify the correct answer and accurately grade their peer’s work. Below is shown a plot of tournament ranks vs. grade. We see that there is a weak correlation. Part of why there may not be a stronger correlation is that many of the students get the correct answer on the homework, so it’s difficult to rank based on accuracy alone.

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