

## **Stakeholder Summary**

### **Tutorials in large classes – for best results go early and often**

Tutorials are designed to offer students in large classes the opportunity for a more focused discussion and direct engagement with other students and teaching assistants (TAs), but do they have an impact on academic performance? A new study from the Higher Education Quality Council of Ontario (HEQCO) finds that test performance is improved by tutorial participation, but only when attending multiple tutorials throughout the term. In addition, the study found that early participation was critical; students not attending one of the first two tutorials were unlikely to attend any of the remaining sessions.

#### **Project Description**

*The Effectiveness of Tutorials in Large Classes: Do they matter?* examined university students in a large introductory macroeconomics class during the 2012-2013 academic year. This course typically enrolls 2,500 students each year divided among five classes. As the course is a pre-requisite for a variety of programs, it has students from faculties across campus. Tutorials of approximately 70 students were held every two weeks. While no academic credit was offered, students who attended multiple tutorials had the option to adjust the weighting of certain tests throughout the year to try and improve their final grade. The study examined student demographics, test performance, final grades, attendance in tutorials, performance on online homework assignments and information from students' applications to university.

The study also examined if a particular style of tutorial was more effective. Students in the fall term were offered a “traditional” tutorial, in which they would review questions in advance and the TA would provide solutions on the blackboard. Students in the winter term were in “collaborative” tutorials that provided question sheets at the beginning of each session and students worked on them together in small groups with TA guidance.

#### **Findings**

Attending a single tutorial did not improve test performance or final grades, but attending more than one had a cumulative effect. Students who attended all five tutorials typically improved their course grade by two full points on a twelve-point grade scale (e.g., B- to B+).

Student participation in the tutorials was generally quite strong, with more than 70% attending at least three tutorials — the minimum number required to have any weighting adjustment for tests. However, less than half participated in all five sessions. First-year students, women, students applying for financial aid and those from high-income neighbourhoods were more likely to attend.

The study showed that the traditional tutorial had a stronger positive effect on test performance, although the authors caution it may be possible that the tutorial size of 70 students was too large for

the collaborative approach to be effective. The authors also highlight the possible benefits of the advance preparation built into the traditional model. Additionally, students in the collaborative tutorials performed better on the optional online homework assignments.

Authors of *The Effectiveness of Tutorials in Large Classes: Do they matter?* are Karen Menard, Ontario Institute for Cancer Research; Bridget O'Shaughnessy, Abigail Payne, Olesya Kotlyachkov, Bradley Minaker, Department of Economics and Public Economics Data Analysis Laboratory (PEDAL), McMaster University.