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Study examines effects of competition on student success

Instructors of large classes often face challenges with student motivation. The classroom incentive structure – grades, extra credit, and instructor and peer acknowledgement – may shape student motivations to engage in their studies. Over the course of a year, students in the introductory psychology course at McMaster University took part in an experiment to test whether competition could affect student achievement, engagement and peer interaction.

Project description

Cooperation and Competition in Large Classrooms evaluated the effects of competition on student performance and the learning environment. Over four semesters, students were randomly assigned during their tutorials to various competition conditions: global competition (between tutorials), local competition (within tutorials) and asocial competition (individual); students were rotated through each condition during the experiment. Students competed over weekly tests for bonus credits that could be applied to reweight the final exam in their favour. The authors hypothesized that global competition would make students dedicate greater effort to their studies, perform better on weekly tests and cooperate more with their peers, in turn creating a more positive learning environment.

Findings

Global competition did not have any effect on student performance on weekly tests. The analyses revealed natural variation in test performance and learning environment irrespective of competition conditions.

The authors acknowledge that their hypothesis may have been incorrect, although there is substantial literature on the positive effects of global competition on cooperation. The incentives may have also been too small, as the credits would have had at most a 4% effect on the weighting of the final exam. The biggest barrier in the success of the study, say the authors, is likely a breakdown in communication between the researchers and the students. The instructions for the experiment were given to students by their TAs, who often had to be reminded to relay the information to their students. Furthermore, students may not have attended their tutorials, paid attention to or remembered the instructions.

In order to understand competition, cooperation and student motivation in large classes the authors propose that future experimental studies consider stronger incentives and address the problem of communication between researchers and students.

Cooperation and Competition in Large Classrooms was written by Daniel Brian Krupp, One Earth Future and Queen's University; Joseph Kim, McMaster University; Peter Taylor, Queen's University; and Pat Barclay, University of Guelph.