Improving Undergraduate Mathematics Learning at LaGuardia

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Target Course: Elementary Algebra (MAT096)

Intervention: academic peer instruction (API) tutoring and EDUCO online supplement

Abstract:
In the spring semester of 2011, LaGuardia Community College undertook a CUNY-sponsored project to study the effect of highly trained Academic Peer Instruction (API) tutors on remedial math students’ use of online material called “EDUCO” and the course outcome. The overall pass rate for the 625 students in the API group is 58.9%, and that for the 415 students in the control group is 56.6%. In terms of grades C- or above, the API group outperformed the control group by 5.2% (33.6% vs. 28.4%). The EDUCO average online tutorial time for the API group is 5h 46m, compared with 3h 12m for the control group. The research hypothesis that API tutors will motivate students to spend more time on studying, which in turn will improve their academic performance appears to be validated. We analyzed the scores of four uniform departmental exams, and the raw final score recorded by EDUCO. Although with this sample size we were unable to reject the null hypothesis, we found that the API sections consistently show better outcomes, e.g. higher pass rates, higher mean exam scores, and lower standard deviation, compared to the control sections. Both faculty and students highly appreciated the intervention, and were impressed by the quality of API tutors. However, surveys revealed that external factors such as family and work responsibilities, as well as student indifference, remain the greatest obstacles to students’ success.