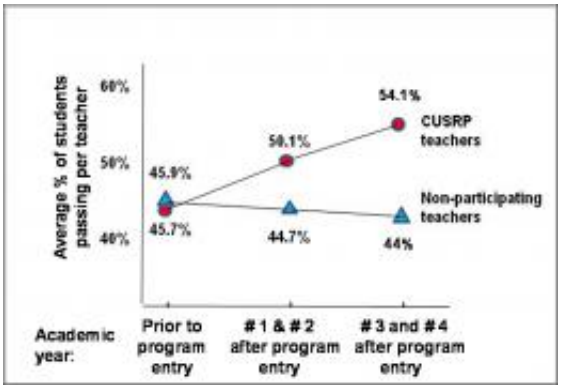
Teaching the Teachers

October 15 2009



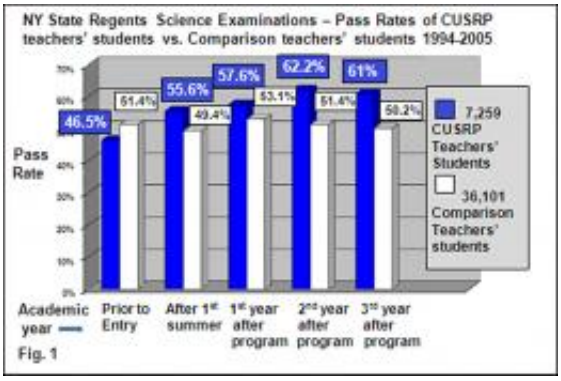
This figure (Figure #1 in Dr. Silverstein's Science paper) shows the percentages of students passing the Science Regents exam according to teachers' participation in CUSRP. Credit: Dr. Samuel C. Silverstein, Columbia University

(PhysOrg.com) -- Research experiences for science teachers can have a direct impact on the achievement of their students, increasing their performance significantly on state assessments. There are also economic benefits--to the schools and to society at large--in having science teachers take part in research experiences. These are the findings Samuel C. Silverstein of Columbia University and colleagues describe in the Oct. 16 issue of *Science* magazine.

Silverstein, who is a past chairman of the Department of Physiology and Cellular Biophysics and professor of medicine at Columbia's College of Physicians and Surgeons, is also founder and director of Columbia University's Summer Research Program for Secondary School Science

Teachers (CUSRP).

CUSRP is a program that brings middle and high school science teachers from the New York City metropolitan area to Columbia's campuses to work on research projects, under the guidance of faculty mentors, for two successive summers. Funded in part by the National Science Foundation, the teachers work in all scientific disciplines represented at Columbia University, from biology and medical sciences to chemistry physics, astronomy, engineering, and earth sciences. A few teachers have even done research at sea on one of Columbia's oceanographic research vessels.



This graph shows the pass rate on the Science Regents exam for students of CUSRP teachers versus comparison teachers. Although the students of CUSRP teachers scored below those of the comparison teachers before the teachers' entry into the program, students of CUSRP teachers were outperforming those of comparison teachers by more than 10 points three and four years after their teachers entry into CUSRP. Credit: Dr. Samuel C. Silverstein, Columbia University

Silverstein's Science paper describes how, over time, students of teachers who participated in CUSRP outperformed other students in New York

State's Science Regents examinations (the state's annual assessment) by 10 percentage points.

Silverstein and his co-authors, including Columbia economist Sherry Glied, also document the economic benefits to students, Departments of Education, and society at large of making this kind of experience widely available to science teachers. They estimate that the program returns to New York City's Department of Education $1.14 within four years for every $1 its sponsors have invested in it. These savings are realized from increased teacher retention and decreased need for students to repeat coursework.

They also suggest that this approach is likely to benefit society generally by increasing the number of students completing high school.

Provided by NSF

Citation: Teaching the Teachers (2009, October 15) retrieved 19 September 2024 from https://phys.org/news/2009-10-teachers.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.