Teacher incentive programs can improve student achievement

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Credit: UC Riverside

It seems like a great idea: Pay teachers more if their students learn more. But does it work?

Though teacher incentive programs are growing in popularity, no one knows for sure if they have a positive effect on student achievement, or if they are worth the extra expenditure of precious state education funds. A new study by an economist at the University of California, Riverside shows that, if properly designed, teacher incentive programs can both improve student achievement in some subjects and be cost-effective.

Studies of existing and experimental teacher incentive programs have shown mixed results, raising student test scores in some cases but not in others. Researchers think the discrepancy has to do with how programs are designed. Programs that reward teachers as a group encourage free-riding and do not improve student achievement. Programs that compensate teachers individually also have little to no effect on student achievement.

Ozkan Eren, an associate professor of economics at UC Riverside, examined a hybrid teacher incentive program that combines individual and group incentives called the Teacher Advancement Program, or TAP. One of the nation's largest education programs, TAP combines mentorship and ongoing professional growth with instructional accountability and performance-based compensation, often in high-need urban schools.

Clusters of less experienced teachers meet daily with highly skilled teachers to learn new instructional strategies and receive individual coaching. Teachers are evaluated multiple times during the school year over almost 20 different areas of effective instructional practice. Finally, teachers are eligible for additional compensation based on their performance in the classroom as well as their students' performance. Teachers receive separate bonuses for teaching practices and teaching outcomes.

Eren examined data obtained from the state of Louisiana for 40 schools that implemented TAP from 2005-11. He found no improvement in math test scores the first year, but steady and dramatic improvement by the third year. Social studies saw similar, although statistically insignificant test score improvement while English and science showed no improvement. He found evidence that other factors, such as changes in the composition of the teaching staff, were not responsible for the improvement. A survey of teachers also indicated that many had

changed their teaching practices as a result of the program, contributing to its success.

The program's benefits exceeded the costs. The total average cost of TAP in Louisiana is roughly $350 to $400 per student. Eren used a standard formula to estimate future earnings based on the assumption that only a quarter of the test score gain reflects real learning and found that TAP could result in a rise in potential earnings of about $945,000 per school year for math. This was cost-effective even if only math test scores improved.

The study concluded that a hybrid structure involving both individual and group incentives can have good results. Multiple and understandable performance metrics, combined with regular feedback to teachers, may also make incentive programs more effective. Finally, rewards should be strong enough to entice teachers to adjust their teaching practices.

The paper, "Teacher Incentives and Student Achievement: Evidence from an Advancement Program," is published in the *Journal of Policy Analysis and Management*.

More information: Ozkan Eren, Teacher Incentives and Student Achievement: Evidence from an Advancement Program, *Journal of Policy Analysis and Management* (2019). DOI: 10.1002/pam.22146

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