Teacher Evaluation, Performance-related Pay, and Constructivist Instruction

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Abstract
This essay highlights Liang and Akiba's (2015) study that examined the impact of teacher performance pay on constructivist instruction in Missouri, published in *Educational Policy*.

Key words: research highlight, performance-related pay, constructivist instruction

In the recent federal-government-initiated accountability movement, teachers are one of the key stakeholders held accountable for student learning (Elliott & Hout, 2011). In this movement, we have also witnessed a renewed interest in performance-related pay (PRP) to incentivize teachers who significantly contribute to student learning (Podgursky & Springer, 2007; Liang & Akiba, 2011; Woessmann, 2011; Liang, 2013). Because student learning is measured largely by high-stakes tests, teachers are under pressure to "game the system and teach to the test for higher test scores instead of putting more effort into enhancing student understanding and cognitive skills" (Jacob & Levitt, 2003; Jacob, 2005; Liang & Akiba, 2015, p. 395). This challenges efforts to establish a connection between PRP and constructivist teaching practices that might not relate well to student test scores. In fact, some studies already indicated that PRP did not lead to improvement of instruction (Lavy, 2009; Glewwe et al., 2010).

Nevertheless, Liang and Akiba (2015) were able to show a modest yet statistically significant association between PRP and

constructivist instruction. This study was based on data collected by two waves of surveys conducted in 2009 and 2010. The surveys asked participants how often they engaged in constructivist instruction of seven types:

> "(a) solving mathematics problems in small groups or with a partner; (b) writing a few sentences about how to solve a mathematics problem; (c) writing reports or doing mathematics projects; (d) discussing solutions to mathematics problems with other students; (e) working and discussing mathematics problems that reflect real-life situations; (f) working with objects like rulers; and (g) talking to the class about their mathematics work" (p. 385).

The participants were 577 middle-school mathematics teachers in Missouri. Each of them responded to these items once in 2009 and again in 2010. Liang and Akiba compared the difference in constructivist instruction practices between these two times. They found that teachers who received PRP improved their constructivist instruction significantly, after controlling for the teachers' background characteristics and school conditions.

Although Liang and Akiba's finding and statistical model do not support a causal relationship between PRP and constructivist teaching practices, they have contributed to establishing a significant association between them for the first time with

empirical data from large-scale surveys. An important takeaway is that teachers do respond to financial incentives. When teacher evaluation and PRP align with teacher practice and are supported by professional development (Liang & Akiba, 2015), they are promising ways to enhance teachers' instructional practices, which in turn promotes student learning.

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