



Performance pay, test scores, and student learning objectives



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ABSTRACT

Austin Independent School District's (AISD) REACH pay for performance program has become a national model for compensation reform. This study analyzes the test scores of students enrolled in schools participating in the REACH program to students enrolled in schools within AISD not participating in the program. We also investigate the relationship between student learning objectives (SLOs), the program's primary measure of individual teacher performance, and teacher performance as measured by value-added student test scores. The AISD REACH program is associated with positive student test score gains in both math and reading during the initial year of implementation. Student test score gains are maintained in the second year, but we do not find any additional growth. We also find that SLOs are not significantly correlated with a teacher's value-added student test scores.

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1. Introduction

Many districts and states have initiated performance pay policies to identify and reward teachers that lead students to significant gains in achievement (Goldhaber, 2009; Johnson & Papay, 2009; Podgursky & Springer, 2007, 2011; Springer, 2007). A driving factor comes in part from research indicating that the most important determinant of a teacher's pay, years of experience and advanced degrees, are not closely related to student performance or school outcomes (Goldhaber, 2002; Gordan, Kane, & Staiger, 2006; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004). Many stakeholders have focused on pay for performance programs as a means to correct inefficiencies found in traditional salary schedules. However, how they influence student test scores is still not fully understood in practice. Nor do we know much empirically on the relationship between individual performance pay program components and outcomes of interest (Springer and Balch, 2010).

The theory of action behind performance pay holds that making pay in part contingent on performance provides

strong incentives to improve outcomes of interest. It can help motivate teachers to higher levels of performance and align their behaviors and interests with institutional goals. Incentives may help attract teachers into the workforce who are relatively more effective at meeting the performance targets while inducing high-performers to remain in the teaching profession. Select observational studies have documented the compositional effect of pay for performance programs (Clotfelter et al., 2008; Fulbeck, 2014; Steele, Murnane, & Willett, 2010; Taylor & Springer, 2010; Wiley, Spindler, & Subert, 2010).¹

Opponents of performance pay systems contend that compensating teachers for the performance of their students or for the subject and/or location in which they teach can compromise collegiality and cooperation among teachers (Murnane & Cohen, 1986). An analysis of data from the schools and staffing survey further suggests that job satisfaction is lower for those teachers who receive merit pay awards

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¹ Using a unique dataset on test scores for students admitted into an unidentified Australian university, Leigh (2012) finds that a 1% rise in the salary of a starting teacher boosts the average aptitude of students entering teacher education courses by 0.6 percentile ranks, with the effect being strongest for those at the median.

(Belfield & Haywood, 2008).² If a breakdown occurs in collegiality, cooperation, and job satisfaction opponents argue that compensation reform efforts may render schools less effective.

In this paper, we analyze the test scores of students enrolled in schools participating in the REACH program to students enrolled in schools within AISD not participating in the program. We also investigate the relationship between student learning objectives (SLOs), the program's primary measure of individual teacher performance, and teacher performance as measured by value-added student test scores. The REACH program has become a national model for compensation reform. Initially designed as a four-year pilot program that would involve 15 schools, the REACH program was awarded \$62.3 million from the United States Department of Education's Teacher Incentive Fund, which helped finance expansion to 43 high-needs schools located primarily in East Austin. AISD REACH offers a unique opportunity to evaluate a comprehensive compensation reform program that incorporates a variety of elements including school-level performance based bonuses, teacher-level performance bonuses, hard to staff bonuses, and professional development incentives.

While the school-level performance bonuses in REACH were based on relatively conventional test score gains measures (see for example, Marsh et al., 2012), the teacher-level incentives were tied to the accomplishment of a set of individualized student learning objectives (SLOs) that each teacher established with their principal. SLOs are targets of student growth that teachers set at the start of the school year and work toward by the end of the school year. SLOs are intended to be data-based instructional goals that are collaboratively constructed with principals based on the needs of students in their classroom. However, it is unclear whether these serve as a valid measure for effective teaching as defined by student achievement data as no research study has yet analyzed their relationship to student achievement. The current investigation will assess the relationship between SLOs and value-added student achievement in an effort to inform choices for measuring teacher effectiveness. This should prove informative given the growing number of districts and states interested in SLOs as a measure of teacher effectiveness.

The simultaneous implementation of the broad set of program components makes it difficult to isolate the effects of any of the particular policies that compose REACH. However, we are able to examine the overall effect of the comprehensive compensation reform and offer exploratory evidence with respect to its most unique component – student learning objectives (SLOs). More specifically, we describe research on two primary questions related to AISD REACH:

- How does student achievement change in the first two years of REACH implementation?
- How well do student learning objectives (SLOs) relate to teacher performance?

We find significant student test score gains in both math and reading associated with the initial year of AISD REACH implementation. Student test score gains are maintained in the second year, but we do not find any additional growth. We also find that SLOs are not significantly correlated with teacher value added. These estimates are consistent across a number of different analytic specifications, sample choices, and sensitivity tests.

In the next two sections, we outline teacher compensation reform efforts in AISD and provide a brief review of relevant literature on teacher compensation reform programs. Section 4 describes our data sources, measures, and analytic strategy, and Section 5 reports our main findings along with a series of sensitivity analyses to verify the robustness of the reported results. The paper concludes with a discussion of our findings, their limitations, and implications for policymakers and research moving forward.

2. REACH background

During the 2004–2005 school year, the AISD Board of Trustees developed a strategic plan that directed then-Superintendent Pascal Forgione to design a new compensation system to recruit, develop, retain, and reward highly effective teachers and administrators. Following an extended planning period, AISD implemented the Strategic Compensation Initiative (now referred to as AISD REACH) in the 2007–2008 school year using \$4.3 million in local revenue to fund the program. An additional \$5.4 million from the state-run grant program, District Awards for Teacher Excellence, and \$1 million from the Texas Education Agency's Beginning Teacher Induction grant, financed REACH the following school year, during which nine schools participated.³

As displayed in Table 1, the AISD REACH program includes six components organized within three program elements: student growth, professional development, and recruitment and retention of teachers at the highest needs schools. Student growth includes teacher developed SLOs and school-wide growth on the Texas Assessment of Knowledge and Skills (TAKS). Professional development is addressed through Take One![®], a single element of the National Board for Professional Teaching Standards (NBPTS) certification process, and novice teacher mentoring, a mentoring program for teachers serving in highest needs schools who are in their first three years of teaching. Recruitment and retention of teachers is addressed by two stipends – one for teachers new to a highest needs school and one for teachers who remain at that school.

The student growth incentives were designed to recognize teachers and principals for student growth, both at the classroom level and at the school level. The student growth component included rewards for all teachers and principals for meeting growth targets in school-wide performance on TAKS testing, and rewarding of individual teachers for meeting their teacher-developed SLOs, which measured performance at the classroom level. The school-wide TAKS growth stipend rewards whole campuses for the performance of students on

² Ballou (2001) suggests that the presence of teacher associations is more directly related to the failure of early experiences with merit pay as opposed to the nature of teaching itself.

³ Springer, Ballou et al. (2012) and Springer, Pane et al. (2012) provide a thorough discussion of performance pay programs in Texas.

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