

Students' Exposure to Distinguished Teaching, by High School and Free and Reduced-Price Lunch Status

Introduction

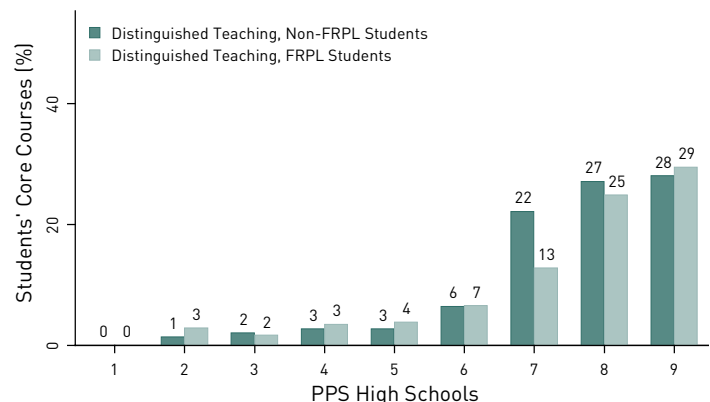
Recent research has found that highly effective teachers can accelerate students' learning¹ and increase their long-term earnings.² Like many districts across the country, the Pittsburgh Public Schools (PPS) has devoted substantial resources to enhancing teachers' effectiveness. Beginning in 2009, PPS launched the Empowering Effective Teachers (EET) plan, supported by more than \$80 million in public and private funding.³ One of the EET's primary goals is to "increase the exposure of high-needs students to highly effective teachers."

During the 2013–14 school year, PPS partnered with the Strategic Data Project (SDP) to gather evidence about PPS students' exposure to highly effective instruction. As part of this research collaboration, SDP investigated whether PPS students' exposure to teachers performing at the "Distinguished"⁴ level in core courses differed according to students' high school, family income status, and racial/ethnic background. This analysis extends prior PPS work by linking teachers' performance levels to their class assignments and examining whether students' exposure to teachers performing at the Distinguished level differs across and within PPS high schools. This Key Findings Report describes the results from these analyses.

Evidence

Figure 1 depicts how the percent of core courses taught by teachers performing at the Distinguished level varies across PPS high schools and according to students' eligibility for free or reduced-price lunch (FRPL)—a proxy for students' family income level. Each pair of bars represents one of PPS' nine high schools; within each pair, the lighter bar represents FRPL-eligible students and darker bar represents all other non-FRPL students. High school students are taught by multiple teachers each day; thus, to estimate the breadth of opportunities that students have to receive instruction at the Distinguished level, we count each core course assignment⁵ as one unit of analysis. For example, one student taking courses in algebra I, English I, and biology would have three opportunities to be assigned to an effective teacher, and each opportunity counts once in the analysis. In total, this analysis measured 26,427 instances of core courses across 7,723 unique PPS students.

Figure 1. Percent of High School Students' Core Courses Taught by Teachers Rated as Distinguished, by High School and FRPL Status



Note. This sample includes 7,723 students with 26,427 student-course assignments from the 2011-12 through 2012-13 school years. Rates not displayed for schools which have recently closed (Peabody, Schenley, Langley, Oliver). Sample excludes alternative and special education high schools. All data from administrative records.

As the figure reveals, PPS students' exposure to Distinguished teaching varies across the district depending on students' particular high school. Across all nine high schools, the percent of core courses taught by teachers performing at the Distinguished level ranges from 0% in School 1 to 28–29% in School 9. As the figure depicts, PPS high schools appear to fall into one of two broad profiles: 1) schools where a fairly small percentage of students' core courses are taught by teachers performing at the Distinguished level (i.e., Schools 1–6), and 2) schools where roughly one-quarter or one-fifth of students' core courses were taught by teachers performing at the Distinguished level (i.e., Schools 7–9).

A second finding is that, within most high schools, FRPL-eligible students were about as likely as their non-FRPL-eligible peers to be exposed to Distinguished teaching. Specifically, the difference between the percent of FRPL-eligible students and all other students assigned to teachers performing at the Distinguished level is two percentage points or less in all but one high school, School 7. It is important to note, however, that in six of the nine PPS high schools, the percentages of students' core courses that are taught by teachers at the Distinguished level is very low. Within these schools, students' general lack of exposure to Distinguished teaching seems to overshadow the small discrepancy in the percentage of

FRPL-eligible and non-FRPL-eligible students whose core courses are taught by teachers rated as Distinguished.

It is also important to note that the discrepancy within one high school, School 7, is substantial: 22% of non-FRPL-eligible students' core courses were taught by teachers performing at the Distinguished level, as compared with 13% of their FRPL-eligible peers' core courses. In addition to raising concerns about equity within this one particular school, School 7 is large enough to affect the district-wide average. District wide, 14% of non-FRPL-eligible students' core courses were taught by teachers at the Distinguished level compared with 8% of FRPL-eligible students' core courses. Most of this six percentage point difference is driven by the differential exposure to Distinguished teaching in School 7.

In separate analyses (not shown), we investigated how students' exposure to Distinguished teaching differed according to their racial/ethnic background. We found similar patterns to those described here. Across all PPS high schools, the percent of students' core courses taught by teachers performing at the Distinguished level ranged from zero to a high of 28–30%. In general, within schools, African American students and non-African American students were exposed to similar levels of effective teaching in all but one high school (School 7), where 14% of non-African American students' core courses were taught by teachers rated as Distinguished, as compared with 21% of the core courses for their African American peers.

Implications

These findings reveal that students' enrollment in particular high schools will influence the likelihood of being exposed to Distinguished teaching in a core course. This calls attention to the importance of examining the factors that influence students' transitions into particular schools and the levers that PPS administrators might pursue to ensure that students' access to Distinguished teaching is equitable across schools. The district's current strategy focuses primarily on enhancing teachers' effectiveness within all PPS schools rather than on revising student enrollment policies. These findings also suggest the importance of learning more about course assignment policies within one particular high school, School 7, where fewer of FRPL-eligible students' core courses are taught by teachers performing at the Distinguished level.

These findings also raise questions that require further investigation. For example, how, if at all, are staffing policies across schools and patterns of teacher turnover and mobility within the district affecting students' exposure to teachers performing at the Distinguished level? A second important topic to investigate is the extent to which the district's new teacher evaluation system is being implemented consistently across schools. Since teachers' classroom observations account for 50% of their overall evaluation, it is critical to ensure that principals' ratings are reliable and consistent across schools. To what extent, if at all, are the discrepancies in Distinguished teaching across PPS high schools the result of inconsistent evaluation practices?

In distributing this Key Findings Report, SDP and PPS collectively hope that these findings may help other districts think about how to use their teacher evaluation data to investigate students' equitable access to effective teaching. Analyses of this nature can help inform critical discussions about how districts' staffing and course assignment policies may promote the strategic distribution of highly effective teachers to the students that need them most.

Endnotes

- ¹ Johnson, M., Lipscomb, S., Gill, B., Booker, K., and Bruch, J. (2012). *Value-added models for the Pittsburgh Public Schools*. Cambridge, MA: Mathematica Policy Research.
- ² Chetty, R., Friedman, J., and Rockoff, J. (2011). *The long-term impacts of teachers: Teacher value-added and student outcomes in adulthood*. (NBER Working Paper No. 17699). Cambridge, MA: National Bureau of Economic Research.
- ³ Pittsburgh Public Schools. (2009). Empowering effective teachers in the Pittsburgh Public Schools. Pittsburgh, PA. Retrieved from: http://www.pps.k12.pa.us/cms/lib07/PA01000449/Centricity/domain/30/document%20library2/PPS_EmpoweringEffectiveTeachers_FINAL090731_1500.pdf
- ⁴ Effectiveness levels are based on multiple measures including observations of practice, student surveys, and student growth indicators (three-year average value-added scores, when available). State-designated categories for performance include Distinguished (at the highest end), Proficient, Needs Improvement, and Failing (at the lowest end).
- ⁵ We match teachers' ratings for 2011–12 and 2012–13 to the courses they taught in those years. The performance levels from the combined measure are based on same-year observations and student survey scores and past student growth information (namely, three-year historical value added information, when available). We include core high school courses in mathematics (algebra I, geometry, algebra II), English language arts (English I–IV), science (biology, chemistry, physics), and social studies (civics, US history, world history). Each student's teacher in each subject counts as one classroom assignment. For example, a student with a teacher in algebra I, a teacher in English I, a teacher in biology, and a teacher in civics would have four classroom assignments in our analysis. The 2011–12 combined measure results were not shared with teachers but were only used for progress monitoring purposes, and 2012–13 results were shared with teachers and administrators for professional development but not used for end-of-year-ratings. The combined measure was used for end-of-year evaluation beginning with the 2013–14 school year.

