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Executive Summary of

The Distribution of Teacher Value Added in North Carolina

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Executive Summary

Purpose of this Report

North Carolina's Race to the Top (RttT) plan includes several specific interventions that are designed to improve the effectiveness of teachers and reduce inequities in the distribution of and student access to effective teachers. The purpose of this report is to provide a baseline for the evaluation of the impacts on effective teacher distribution and assess that result from implementation of the state's RttT plan. On February 2, 2012, the North Carolina State Board of Education adopted the Educator Value-Added Assessment System (EVAAS), a product of the SAS Institute, as the measure of student growth to be used to assess teachers on the North Carolina Educator Evaluation System's new sixth standard.¹

Data, Sample, Measures, and Analytical Methods

For this report, the Evaluation Team analyzed the "value-added" EVAAS index scores of approximately 35% of North Carolina teachers, grades 5 through 8, in the 2008-09 through 2009-10 school years. The report uses the EVAAS index scores calculated by the SAS Institute as the sole measure for an individual teacher's "value added," which is defined as a teacher's contribution to gains in student achievement, and for this study is based on students' prior test scores. The Team conducted two primary analyses: first, a descriptive analysis of the geographic distribution of high and low value-added teachers using a dataset comprising pooled estimates of math and reading teachers' value-added indexes for both academic years. Second, the Team assessed students' access to higher and lower value-added teachers using a dataset in which students' 2009-2010 individual, classroom, and school demographic and performance characteristics were related to their 2008-2009 teachers' value-added scores.

Key Findings

For each of the findings, teacher value added is defined as a measure of the extent to which teachers raised student test scores, as estimated by the EVAAS model.

Geographic Region/District

- Geography was related to but did not fully determine student access to teachers with higher value-added scores. Local Education Agencies (LEAs)² with higher-than-average concentrations of high value-added teachers were present in nearly every part of North

¹ The other five standards of the North Carolina Educator Evaluation System (NCEES) are: (1) Teachers demonstrate leadership; (2) Teachers establish a respectful environment for a diverse population of students; (3) Teachers know the content they teach; (4) Teachers facilitate learning for their students; and (5) Teachers reflect on their practice. Teachers may receive a rating of "Not Demonstrated," "Developing," "Proficient," "Accomplished," or "Distinguished" for standards 1-5.

² LEA is North Carolina's term for traditional school districts and charter schools.

Carolina. The Team found numerous instances of LEAs with high concentrations of high value-added teachers that were geographically adjacent to LEAs with low concentrations of high value-added teachers.

- While geography did not fully determine teacher value added, there was some variation across regions. The Mountain region³ had a relatively large proportion of LEAs with larger concentrations of high value-added teachers. The Piedmont region contained a mix of LEAs with higher concentrations of high value-added teachers alongside LEAs with higher concentrations of low value-added teachers. The Coastal Plain had relatively few LEAs with high concentrations of high value-added teachers.

Students

- Minority, poor, and low-achieving students typically had lower value-added teachers than did non-minority, non-poor, high-achieving students. However, once classroom and school-level variables are added to the model, results suggest that individual students' characteristics matter less than a classroom's average level of prior achievement. Our findings suggest that schools tend to group students of similar achievement level together and then assign the highest value-added teachers to the classes of students with the highest levels of prior achievement.

Classrooms and Schools

- Average classroom and school poverty rates were negatively associated with teacher value added.
- Average classroom and school minority composition rates were negatively associated with teacher value added.
- Average classroom and school achievement were positively associated with teacher value added.

Conclusions

Based on analyses of EVAAS scores, the results in this report suggest that, prior to RttT, students in low-achieving, high-poverty, and high-minority schools tended to have teachers with lower value-added scores. In short, we find evidence of inequitable distribution of teachers both within and between schools prior to RttT. Since prior research stresses the importance of effective teaching in improving students' achievement, the findings in this report should stimulate policy discussions about how students in schools and classrooms with concentrations of high-poverty, high-minority, and low-achieving peers can gain more access to teachers with higher value-added scores.

³ The three geographic regions used in this report are Mountain, Piedmont, and Coastal Plain. The counties comprising each of these three regions are organized according to geography resources from the North Carolina Department of the Secretary of State; regions are not coterminous with the eight Regional Education Service Area (RESA) regions. A full map is included in Appendix A of the full report.

This study also clearly challenges perceptions that geography alone prescribes the distribution of high value-added teachers across the state. It appears that high value-added teachers take positions in any given region of the state and that their concentration in any LEA may be driven, at least in part, by the policies of each LEA. Thus, it may be possible for policies and programs to improve the distribution of high value-added teachers and give all students more equitable access to more high value-added teachers. North Carolina's RttT plan includes several such initiatives that are designed to make access to more effective teachers more equitable, including initiatives for the specific distribution of effective teachers and leaders, under the assumption that effective principals will attract high value-added teachers. In addition, school transformation efforts can improve access to effective teachers in low-achieving schools. The baseline assessments in this report represent a starting point from which the RttT initiatives to improve equitable access to high value-added teachers can be assessed at the end of the RttT grant period.

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