



Equitable Access Support Network

Choosing Measures of Effective Educators: Delaware's Approach

April 9, 2015



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Webinar Objectives

Attendees will:

- Learn about the relative impact of different teacher characteristics on student outcomes
- Walk with Delaware through its process of selecting specific measures of educator effectiveness, analyzing pertinent equity gaps, and visualizing the results.



Agenda

- Which measures of educator effectiveness make a difference for students?
- One State's thought process in choosing its measures of educator effectiveness
- Q&A



Facilitators and Presenters

- **Andy Baxter**, Southern Regional Education Board
- **Meg Nipson & Aaron Dow**, Center for Education Policy Research, Harvard University
- **Doug Gagnon**, Delaware Department of Education

Which measures of educator effectiveness make a difference for students?



Aaron Dow
Research Analyst
Center for Education Policy Research

Aaron Dow is a research analyst at CEPR. He holds a B.A. in economics from the University of Massachusetts Amherst. Aaron has tutored intermediate micro and macroeconomic courses. He has also worked and volunteered in the special education department of his local town's school district. Aaron is a member of Omicron Delta Epsilon honor society.

Meg Nipson
Research Manager
Center for Education Policy Research

Meg Nipson is a research manager at CEPR. Prior to joining CEPR, she worked at Harvard's Joint Center for Housing Studies, where she focused on low-income housing policy and rental affordability. She also carried out spatial analyses of foreclosures and participated in research on consumer bankruptcy. As a research associate at Harvard's Hauser Center for Nonprofit Organizations, she worked on a large telemarketing study and managed data acquisition for several projects on state and city fiscal accountability. Her prior experience was as a group manager and project administrator for the Harvard Institute for International Development, where she oversaw collaborative research and development projects in Sub-Saharan Africa, Asia, Latin America, and Eastern Europe. She has an M.S. in finance from Brandeis University and a B.A. in mathematics from Harvard University.



Center for Education Policy Research

HARVARD UNIVERSITY



STRATEGIC DATA PROJECT

Evaluating Educator Equity Metrics

Equitable Access Support Network



Which Metrics Should You Choose?

Ask yourself four questions:

- Can you measure it?
- Does it matter?
- Does it vary?
- Can you change it?



Consider These Metrics

Share of teachers who are:

- Highly qualified
- Teaching out of field
- Novices
- Holding advanced degrees
- National Board certified

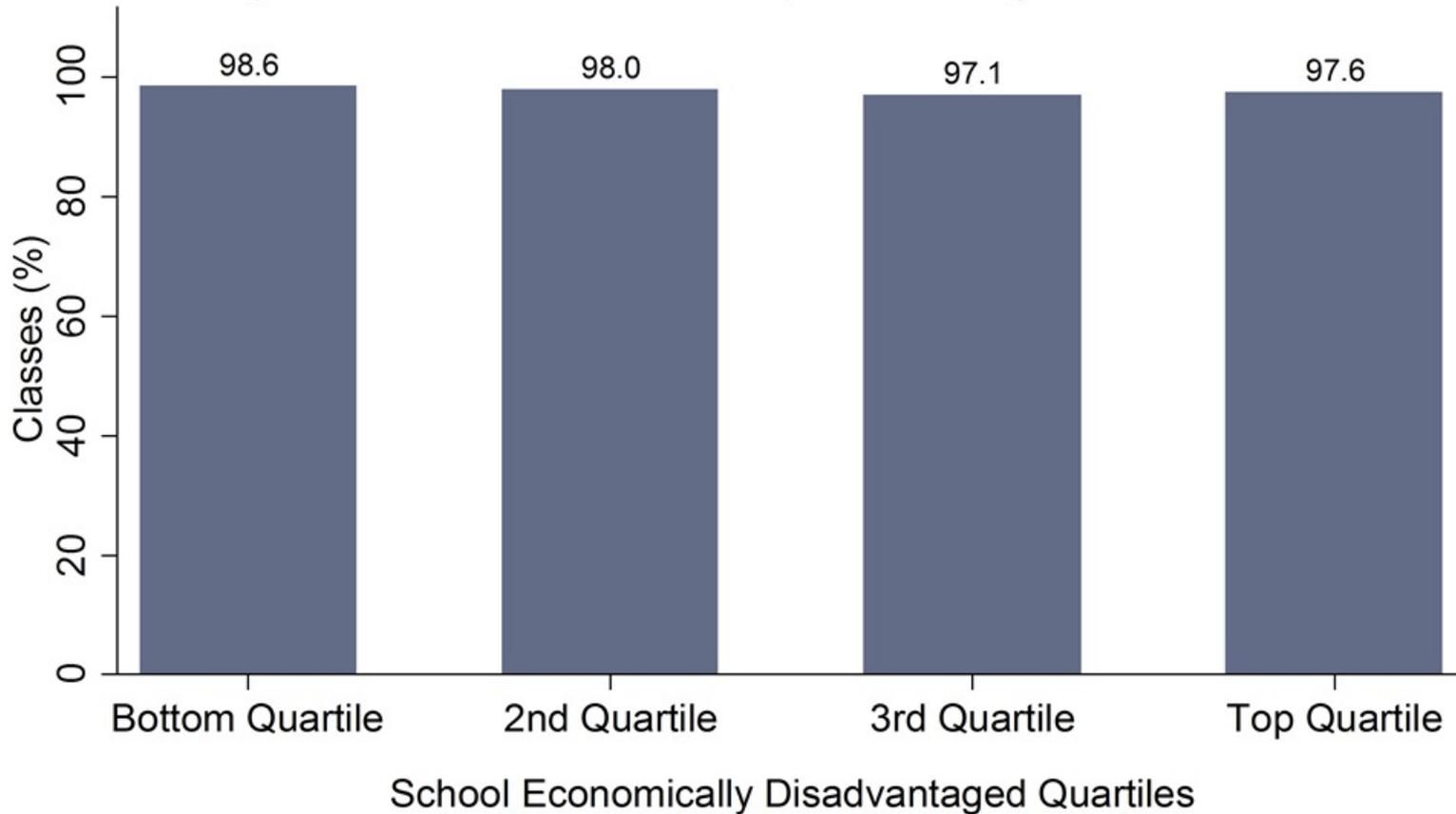


Evidence from Our Partners' Data

- Highly qualified: doesn't vary
- Teaching out of field: didn't measure



Average Percentage of Classes Taught by Highly-Qualified Teachers by School 2013-14 Economically Disadvantaged Quartiles



*Significantly different from the bottom quartile value, at the 95 percent confidence level.
Notes: Sample includes 172 comprehensive, vocational, and magnet schools.
Data are from the 2013-14 school year.

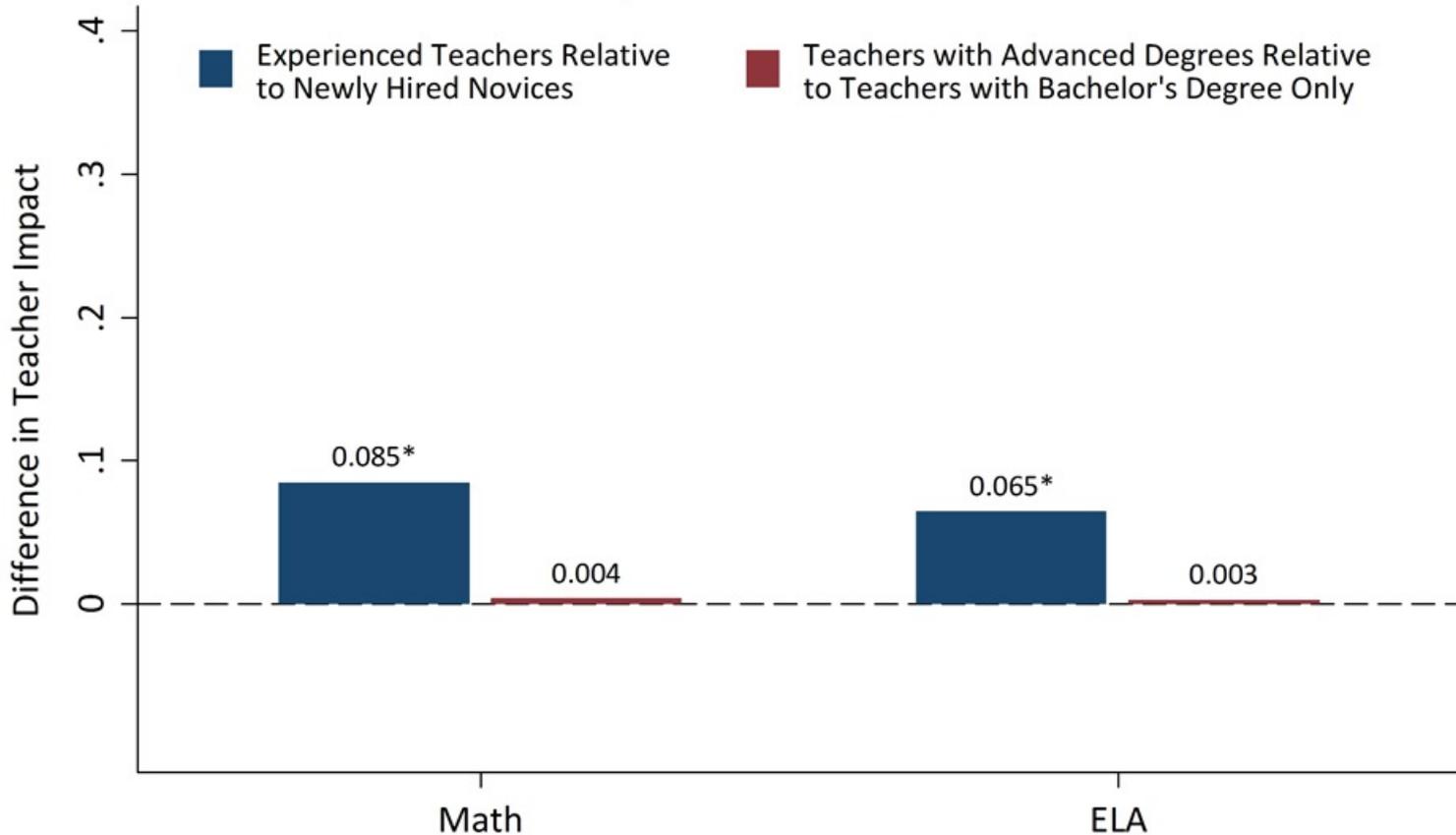


Evidence from Our Partners' Data

- Novices: matters, varies
- Holding advanced degrees: doesn't matter

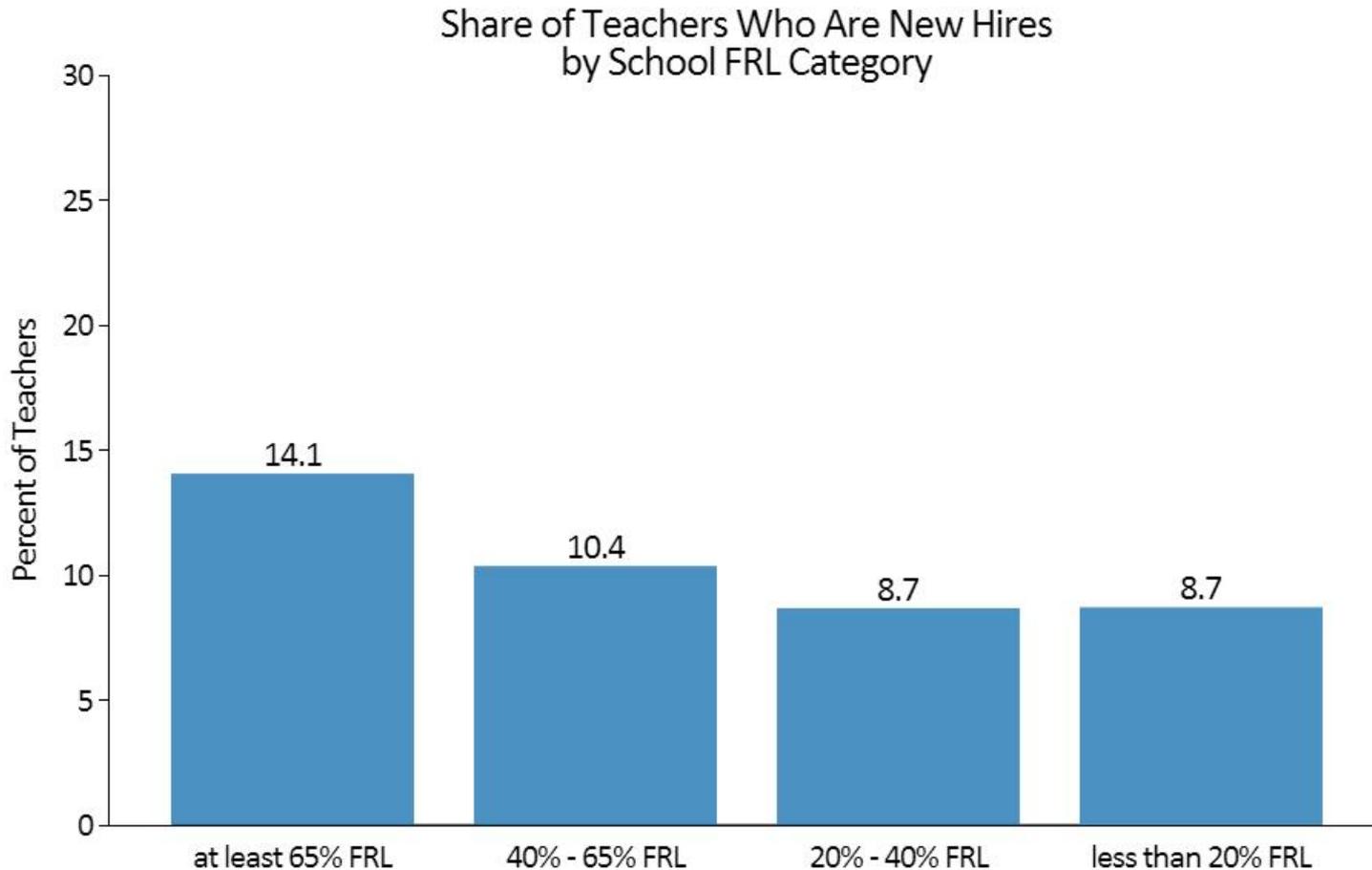


Teacher Impacts on Student Achievement



*Significantly different from zero, at the 95 percent confidence level.

Notes: Sample includes comprehensive, magnet, and charter school teachers with teacher job codes and their students in grades 4 through 8 with prior year test scores in the 2008-09 through 2011-12 school years. Difference in teacher impact for teachers with advanced degrees relative to teachers with bachelor's degree only calculated using a sample of 751 math teacher years, 828 ELA teacher years, 336 unique math teachers, and 360 unique ELA teachers. All data are from state administrative records.



Sample includes teachers with teacher job codes in comprehensive, vocational, charter, and magnet schools, with 95,435 teacher years and 53,523 unique teachers in the 2010-11 to 2011-12 school years. All data from state administrative records.

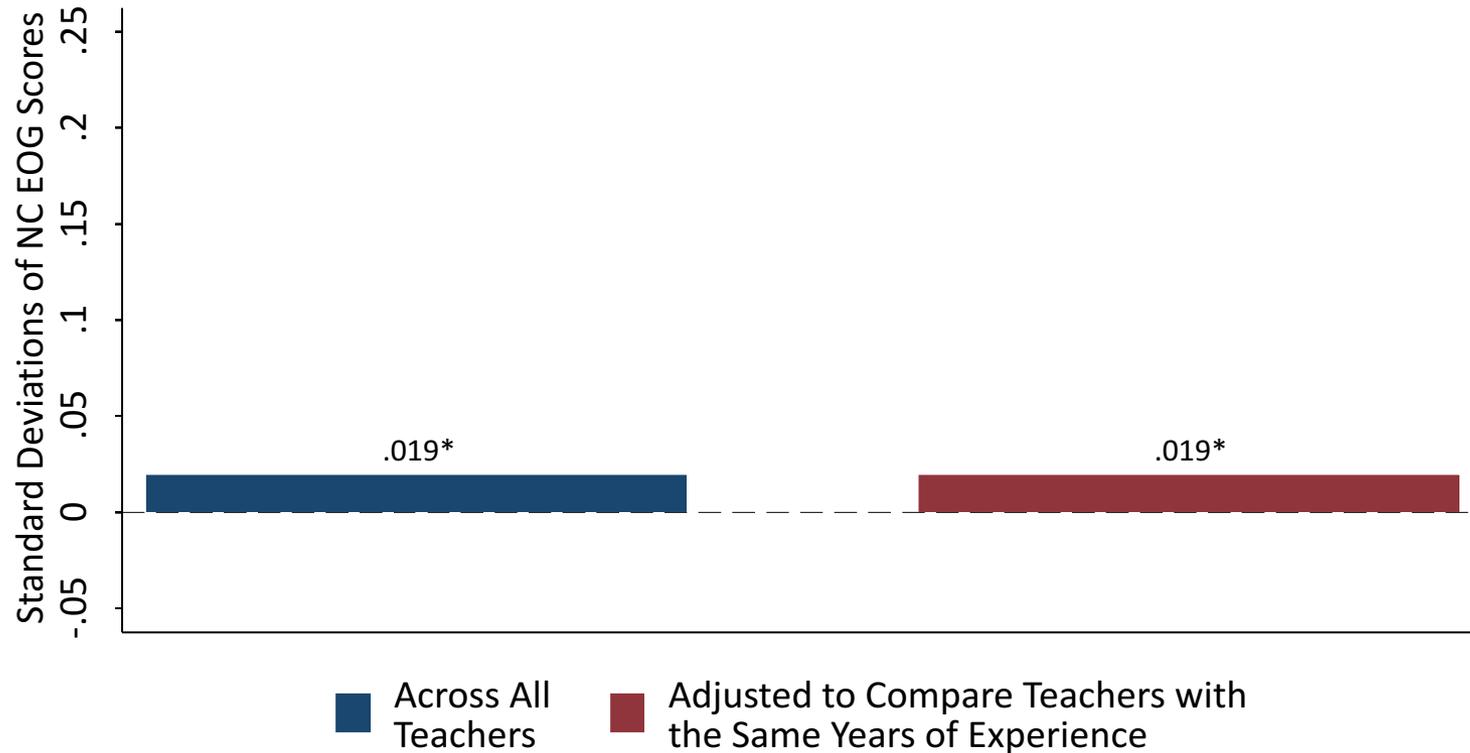


Evidence from Our Partners' Data

- National Board certified: hard to measure, matters?



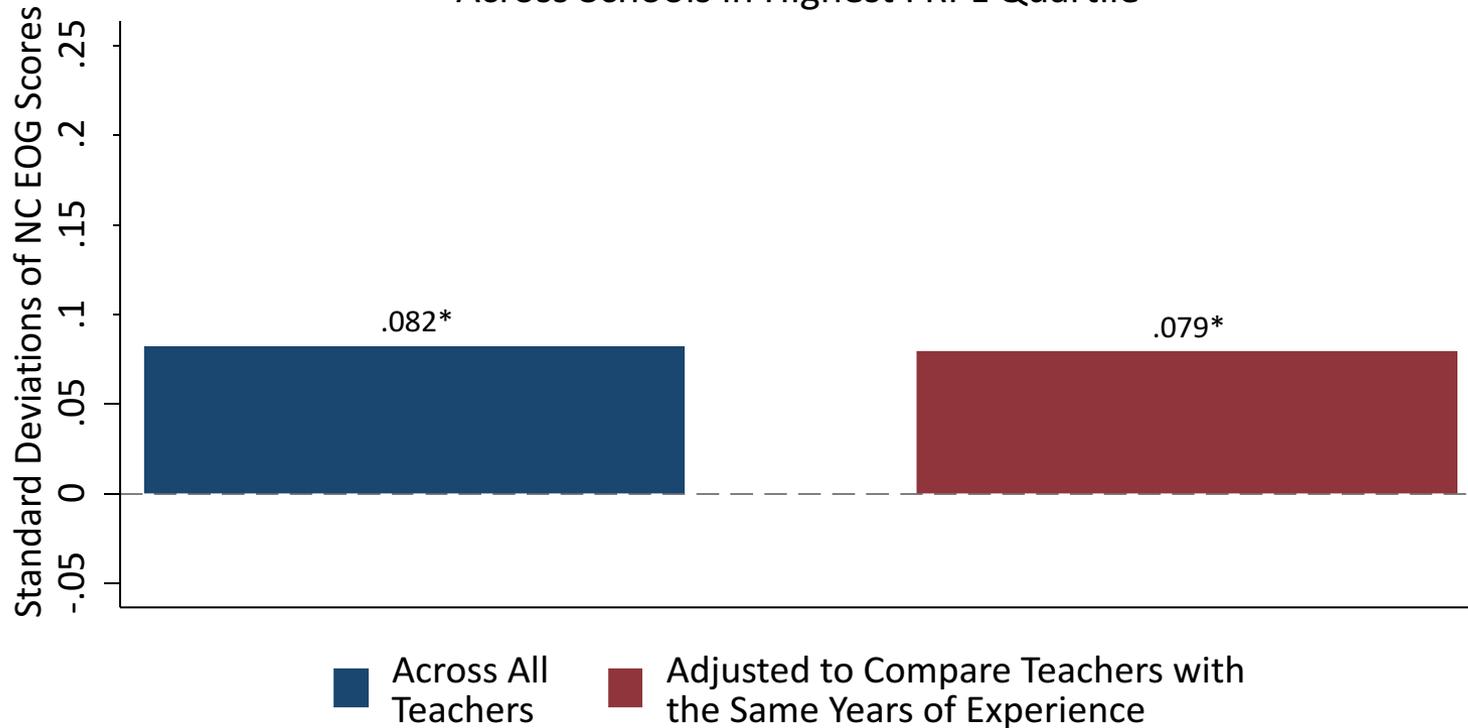
Differences in Math Teacher Impact for Teachers with National Board Certification



Notes: Sample includes teachers with teacher job codes and teacher effects estimates who are linked to students in schools in the 2007-08 to 2011-12 school years, with 5094 teacher years and 1997 unique teachers. Teachers are included for whom national board certification can be observed.



Differences in Math Teacher Impact for Teachers with National Board Certification Across Schools in Highest FRPL Quartile



Notes: Sample includes teachers with teacher job codes and teacher effects estimates who are linked to students in schools in the 2007-08 to 2011-12 school years, with 1345 teacher years and 623 unique teachers. Teachers are included for whom national board certification can be observed.



Consider These Metrics

Share of teachers who are:

- Highly qualified
- Teaching out of field
- Novices
- Holding advanced degrees
- National Board certified



Q&A

Share Your Thoughts!

Please type your question for Aaron and Meg in the chat box.

The Delaware Story



Doug Gagnon

Strategic Data Fellow

Delaware Department of Education

Doug is working as a Data Fellow with the Delaware DOE through its partnership with the Strategic Data Project (SDP) at Harvard University. In this role, he supports the Department's use of data to identify gaps and patterns in equitable access to effective educators across the state. The SDP partners with school districts, charter school networks, state education agencies, and nonprofit organizations to bring high-quality research methods and data analysis to bear on strategic management and policy decisions. Doug earned his Ph.D. in Education Policy from the University of New Hampshire, where his dissertation examined the distribution of teacher effectiveness in the state. While completing his studies, Doug also conducted research for the Carsey School of Public Policy and The Center for Assessment. Before pursuing a career in research and analytics, Doug accumulated nearly a decade of experience in education as a physics teacher and as a curriculum and assessment specialist.

ENSURING EQUITABLE ACCESS TO EXCELLENT EDUCATORS



DEFINING THE GAPS



Delaware's Approach: Definitions

Gaps Based Upon Federal Requirements/ Statutory Terms

Inexperienced

Out-of-Field

Unqualified

Areas Where DDOE Believed There Would Be Gaps

Teacher Turnover

Teacher Effectiveness

Potential Gaps Named in Stakeholder Engagement

School Climate

Urban vs. Non-Urban

English Language Learners

Students with Disabilities

Definitions: Decision-Making Process

1. Delaware created a matrix with our list of terms/gaps and reference sources including:

- Delaware State Code and/or Regulations
- Race to the Top Application Glossary
- AIR/GTL Sample Plan
- Data from USED
- Guidance from USED FAQ for Equity Plan
- Definitions from New York State Draft Plan

Definitions, Outcome Measures, and Student Subgroup Definitions

1. Educator Equity “outcome” measures:

- Teacher and principal evaluation summative ratings
- Teacher observational scores
- Teacher contribution to student growth
- Teacher and principal turnover
- Rates of first-year teachers
- Rates of early-career teachers
- Highly qualified teachers
- Out-of-field teaching
- Teacher licensure exam scores
- School working conditions
- Teacher pay

2. Student subgroup definitions:

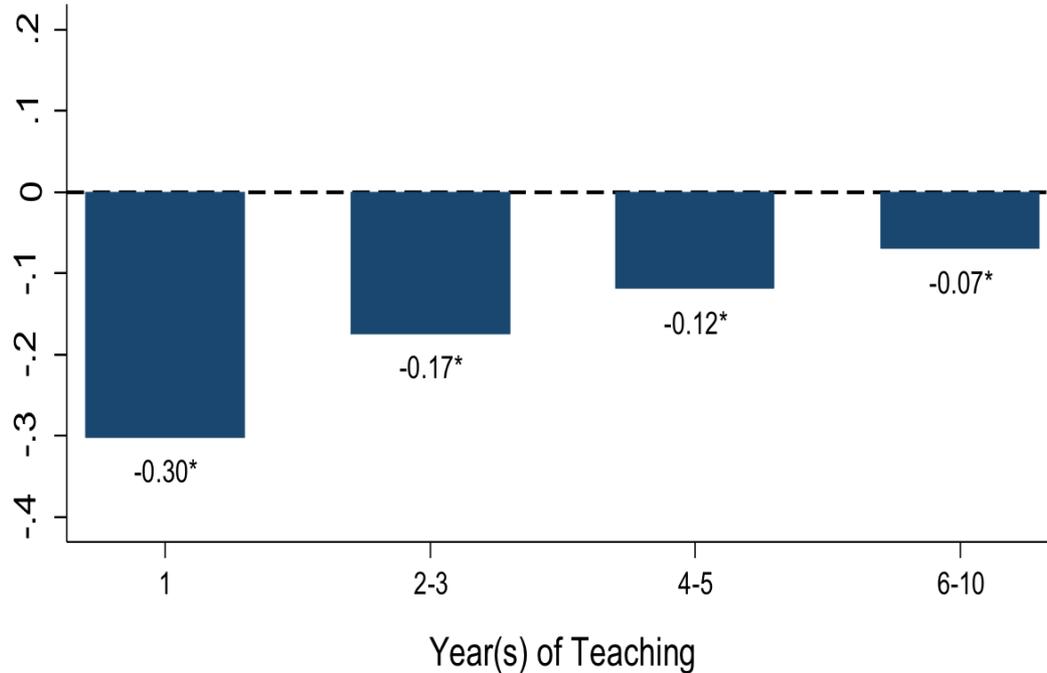
- Students from low-income families
- Students of color
- Students with a disability
- English Language Learners
- Urban students
- Students from Wilmington

SAMPLE DATA FROM THE DE PLAN



Earlier analyses in Delaware (with the Harvard Strategic Data Project) showed that, on average, lower achieving students are placed with less experienced teachers'

Difference in Average Prior Math Performance of Students Assigned to Early-Career Teachers Compared to Teachers with 11 or More Years of Teaching
Elementary Schools, Overall

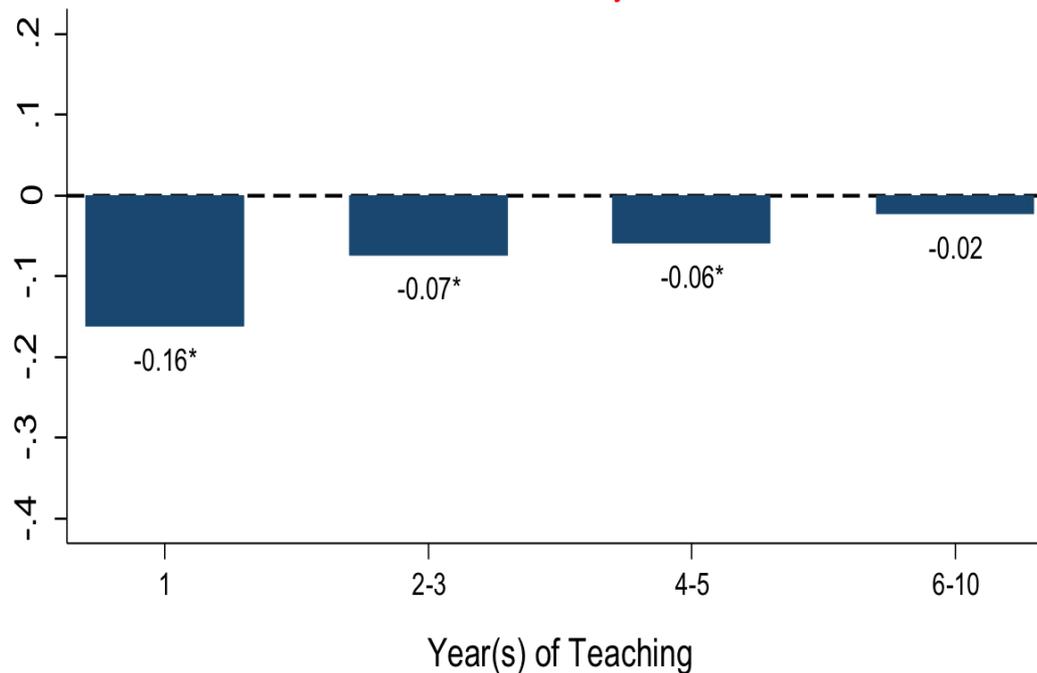


*Significantly different from zero, at the 95 percent confidence level.

Notes: Sample includes comprehensive and magnet school teachers with teacher job codes and their students in grades 4 and 5 with prior year test scores in the 2006-07 through 2011-12 school years, with 3,576 teacher years, 76,169 student years, 1,162 unique teachers, and 50,712 unique students. Test scores are normalized to have an average of zero and a standard deviation of one, and are shown in standard deviation units. All data are from Delaware Department of Education records.

Moreover, these equity gaps by experience also existed when we looked only within schools

Difference in Average Prior Math Performance
of Students Assigned to Early-Career Teachers
Compared to Teachers with 11 or More Years of Teaching
Within Elementary Schools



*Significantly different from zero, at the 95 percent confidence level.

Notes: Sample includes comprehensive and magnet school teachers with teacher job codes and their students in grades 4 and 5 with prior year test scores in the 2006-07 through 2011-12 school years, with 3,576 teacher years, 76,169 student years, 1,162 unique teachers, and 50,712 unique students. Test scores are normalized to have an average of zero and a standard deviation of one, and are shown in standard deviation units. All data are from Delaware Department of Education records.

Choosing Gaps

There are gaps in a variety of outcome measures across a number of student subgroup categories. Delaware made decisions about which to include, and how...

Outcomes	School Poverty	School Minority	School ELL	School Disability	Urban/Non-Urban	Wilmington/Non-Wilmington
	Quartiles	Quartiles	Quartiles	Quartiles	Urban	Wilmington
	Gap (4-1)	Gap (4-1)	Gap (4-1)	Gap (4-1)	Gap (U-NU)	Gap (W-NW)
Share of Teachers Who Are First-Year Teachers	2.2*	2.3*	0.3	0.5	1.5*	-0.1
Share of Teachers Who Are Early Career (0-2 Years Experience)	4.2*	5.2*	-0.9	2.5*	5.1*	-0.4
Average Years of Teaching Experience	-2.1*	-2.2*	-0.7*	-1.3*	-1.4*	0.4
Share of Teachers Rated as Unsatisfactory on DPAS Component I	0.2	0.5*	0.2	0	0.3	-0.1
Share of Teachers Rated as Satisfactory on DPAS Component I	-0.2	-0.5*	-0.2	0	-0.3	0.1
Share of Teachers Rated as Unsatisfactory on DPAS Component II	1.4*	1.2*	0.8	0.1	1.9*	0
Share of Teachers Rated as Satisfactory on DPAS Component II	-1.4*	-1.2*	-0.8	-0.1	-1.9*	0
Share of Teachers Rated as Unsatisfactory on DPAS Component III	1.2*	1.5*	1.3*	-0.2	0.7	-0.3
Share of Teachers Rated as Satisfactory on DPAS Component III	-1.2*	-1.5*	-1.3*	0.2	-0.7	0.3
Share of Teachers Rated as Unsatisfactory on DPAS Component IV	-0.3	0.1	0	0.2	0.7	-0.5*
Share of Teachers Rated as Satisfactory on DPAS Component IV	0.3	-0.1	0	-0.2	-0.7	0.5*
Share of Teachers Rated as Unsatisfactory on DPAS Measure A	17.6*	14.1*	10.6*	5.1*	12.7*	10.8*
Share of Teachers Rated as Satisfactory on DPAS Measure A	-5.3	3.8	2.2	5.6	-5.2	5.3*
Share of Teachers Rated as Exceeds on DPAS Measure A	-12.4*	-17.9*	-12.8*	-10.7*	-7.5*	-16.1*
Share of Teachers with a Summative Rating of Ineffective or Needs Improvement	2.6*	1.8*	1.7*	0.4	1.8*	0.6
Share of Teachers with a Summative Rating of Effective	6.2*	6.7*	2.5	5.1*	5.5*	5.0*
Share of Teachers with a Summative Rating of Highly Effective	-8.8*	-8.5*	-4.2	-5.5*	-7.3*	-5.6*
Average Teacher Salary	-4797.0*	-2183.1*	-514	-3946.5*	-2582.3*	5205.0*
Average Teacher Salary, Adjusted for Years of Experience and Advanced Degree	-1876.8*	916.4*	414	-1804.7*	-787.9*	4754.5*
Percent of Teachers Who Left Teaching in Delaware Public Schools in 2012-13	0.4	3.6*	-1.9*	0.6	2.9*	0.4
Percent of Teachers Who Transferred Districts in Delaware in 2012-13	0.9*	1.3*	-0.3	0.8*	1.6*	-0.4
Percent of Teachers who Transferred Schools within a District in Delaware in 2012-13	4.3*	3.1*	2.9*	2.5*	0.8	-1.7*
Overall Percent of Teacher Turnover	5.6*	7.9*	0.7	3.9*	5.3*	-1.7
Percent of Classes Taught by Highly-Qualified Teachers, 2013-14	-1	-1.4	0.7	0.4	-0.3	-0.2
Average TELL Composite Score, 2012-13	-5.4*	-8.1*	1.7	-2.7	-6.9*	-3.6
* Difference is statistically significant at the 95% confidence level.						
Sample includes teachers with teaching job codes in comprehensive, vocational, and magnet schools. Teacher experience, salary, percent of classes taught by highly-qualified teachers, and DPAS outcomes are from the 2013-14 school year. Retention outcomes and TELL scores are from the 2012-13 school year. All data are from Delaware Department of Education records.						

Schools that serve a large percent of low-income students are more likely to have a larger share of new hires and first year teachers

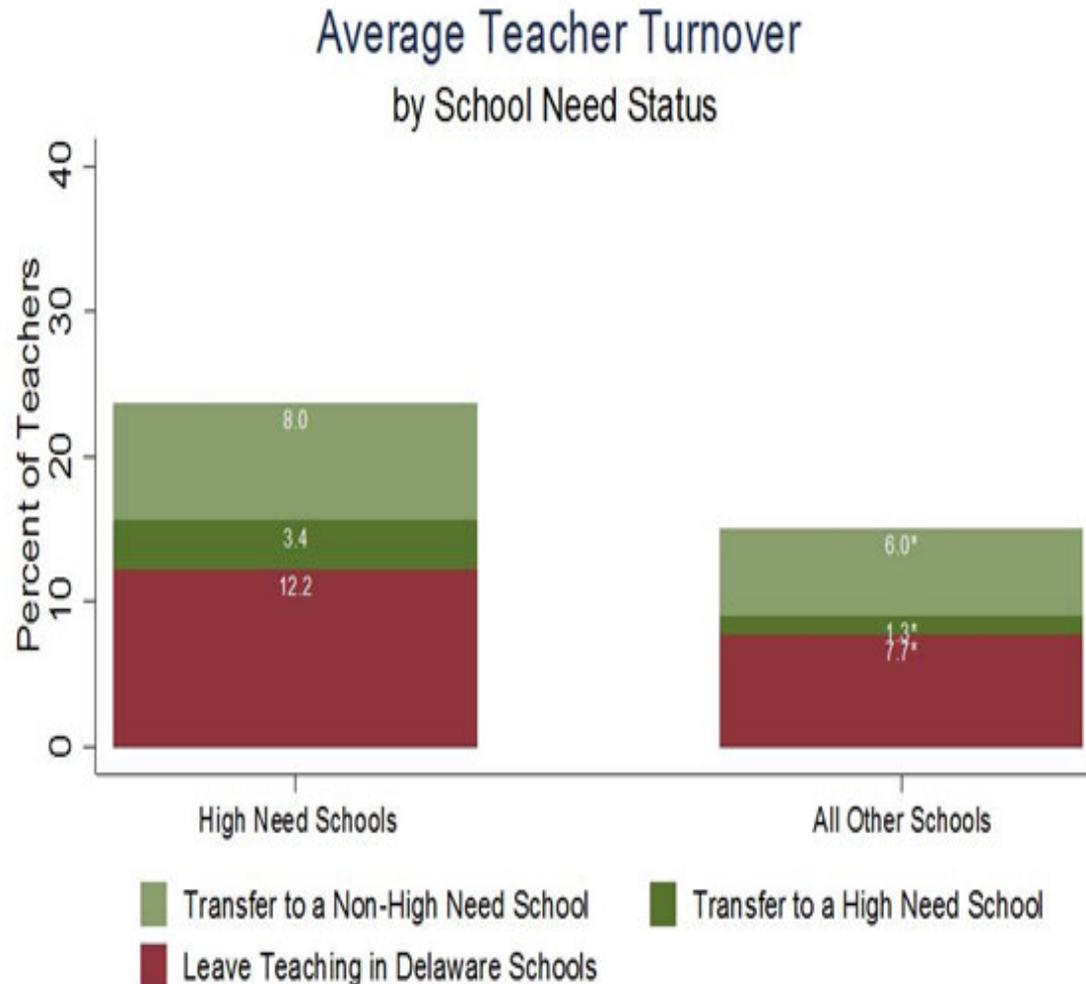
Share of Teachers Who Are New Hires
by School 2013-14 Low Income Quartiles



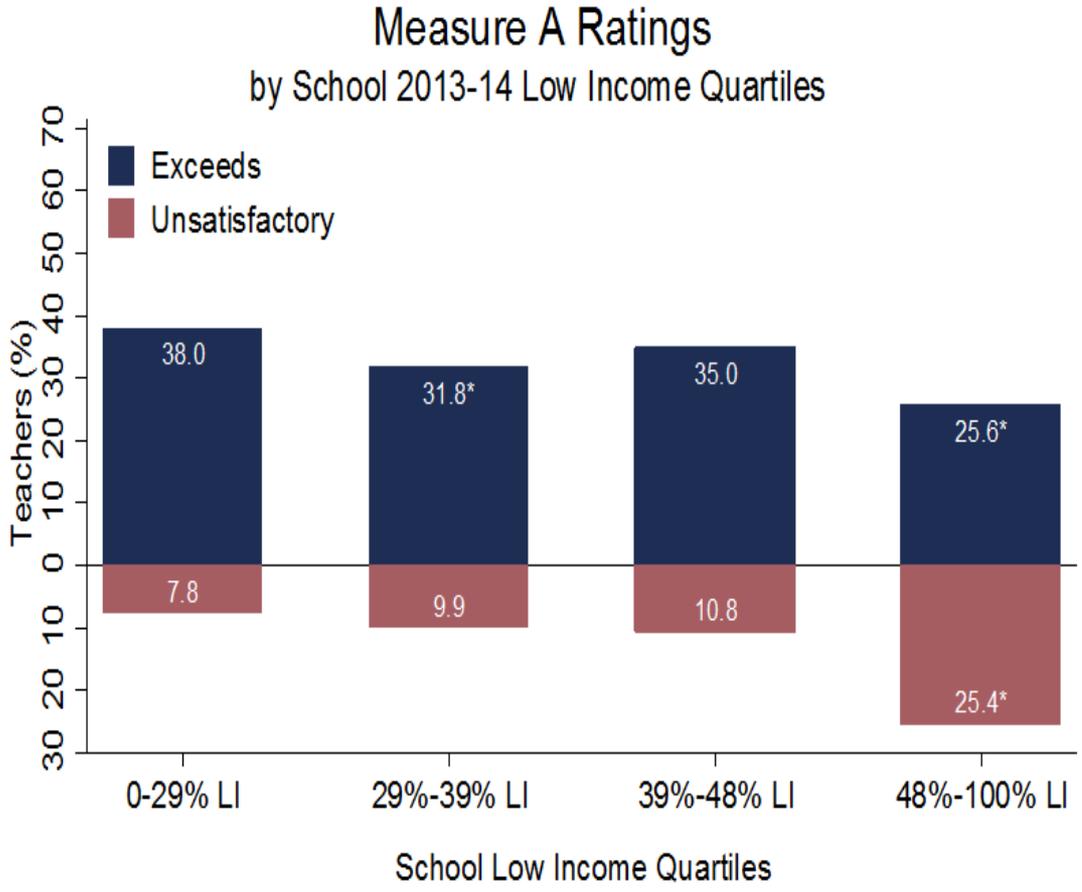
*Significantly different from the bottom quartile value, at the 95 percent confidence level.

Notes: Sample includes 7,599 teachers with teacher job codes in comprehensive, vocational, and magnet schools. Data are from the 2013-14 school year. All data are from Delaware Department of Education records.

Teachers are less likely to transfer into high-need schools from non-high-need schools

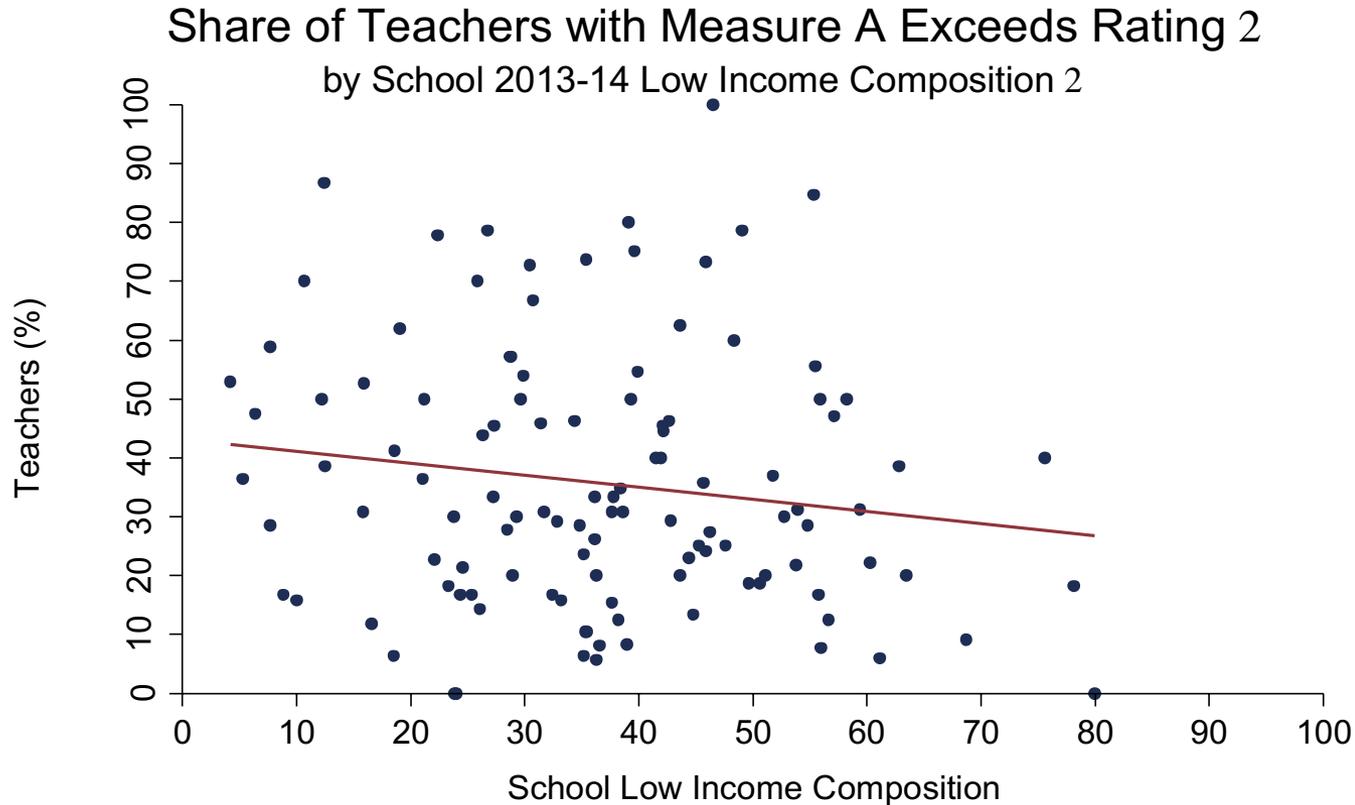


Schools with high percentages of low-income students are more likely to have teachers who earn “Unsatisfactory” ratings on “Measure A” of their teacher evaluations



*Significantly different from the bottom quartile value, at the 95 percent confidence level.
Notes: Sample includes 2,476 teachers with teacher job codes and Measure A ratings in comprehensive, vocational, charter, and magnet schools.
Data are from the 2013-14 school year. All data are from Delaware Department of Education records.

The share of teachers earning “Exceeds” on “Measure A” varies across schools income levels





Q&A

Share Your Thoughts!

Please type your question for Doug
in the chat box.



Contact the EASN

Please visit the EASN website or email the EASN to join an EASN Community of Practice, find relevant resources, or request targeted support.

<https://easn.grads360.org/>

easn@aemcorp.com

Thank You!