

*Using Longitudinal Data Systems for
Program Improvement,
Accountability and Research*

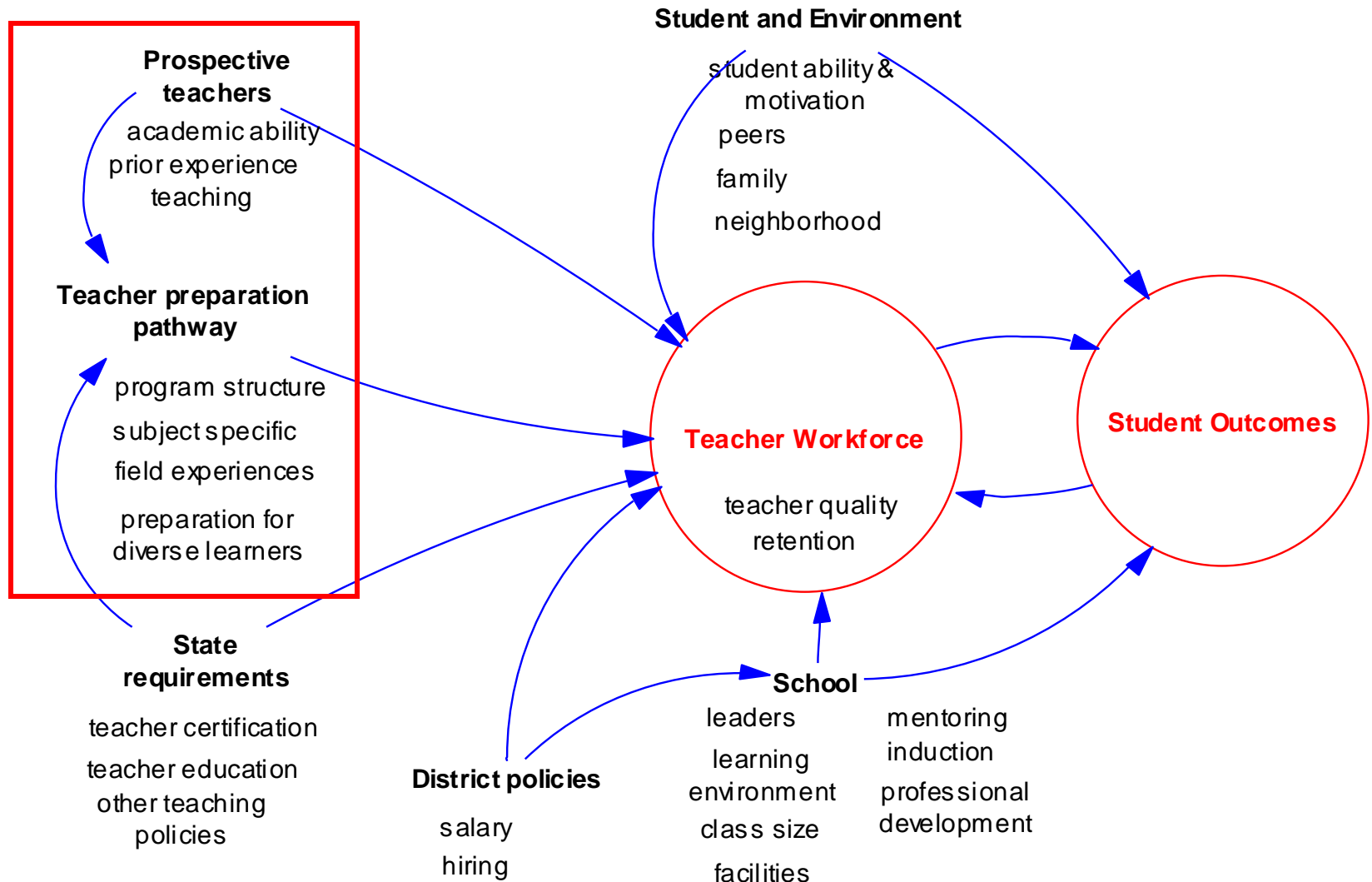
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Overview

- Program Improvement: Teacher preparation programs can and are learning a great deal about their programs by following their students/graduates in longitudinal databases,
- Accountability: Be wary of basing program accountability solely on value-added analysis of teacher/student data in longitudinal databases,
- Research: A systematic program of experimentally designed research can provide important insights to how to improve teacher preparation.

Teacher Preparation and Student Outcomes



Program Improvement—Some questions

- Who are our program completers—age, ethnicity, areas of certification?
- What characterizes the preparation they receive?
- How well do they perform on measures of qualifications, e.g., licensure exams?
- Where do our teachers teach? What is their attrition?—are they meeting program goals and mission?
- How effective are they as teachers?—The holy grail

Program Improvement—A pilot project in NY

Tracking Program Completers: Teacher Quality Research Pilot Reports

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Program Improvement—TQRC Deliverables

- A prototype state-wide integrated program-completers database for all 110 IHEs who prepare teachers in New York State
- Reports summarizing many socio-demographic characteristics of program completers, their areas of certification and their career paths, little information on attributes of preparation
- Assist NYSED in developing program-completer-level databases they provide IHE preparing teacher candidates with useful information for improvement

Program Improvement—TQRC Process

- Demand from IHEs for data regarding their program completers (about 2007); NYSED insufficient capacity to assemble and analyze data
- Pilot project with funding from NYSED and Carnegie (less than \$1000/institution)
- TQRC Advisory Panel provided continuing advice
- Cleaned and synthesized data from 6 databases for all program completers from 2000-2005
- Excel spreadsheets with 80 tables for each of up to 16 different program areas in each of 110 IHEs

Accountability

“Like the Teachers College, many schools of education have provided high-quality preparation programs for aspiring teachers for years... Yet, by almost any standard, *many if not most of the nation's 1,450 schools, colleges, and departments of education are doing a mediocre job of preparing teachers for the realities of the 21st century classroom.*”

—Secretary Duncan, October 22, 2009

Accountability—Mediocre?

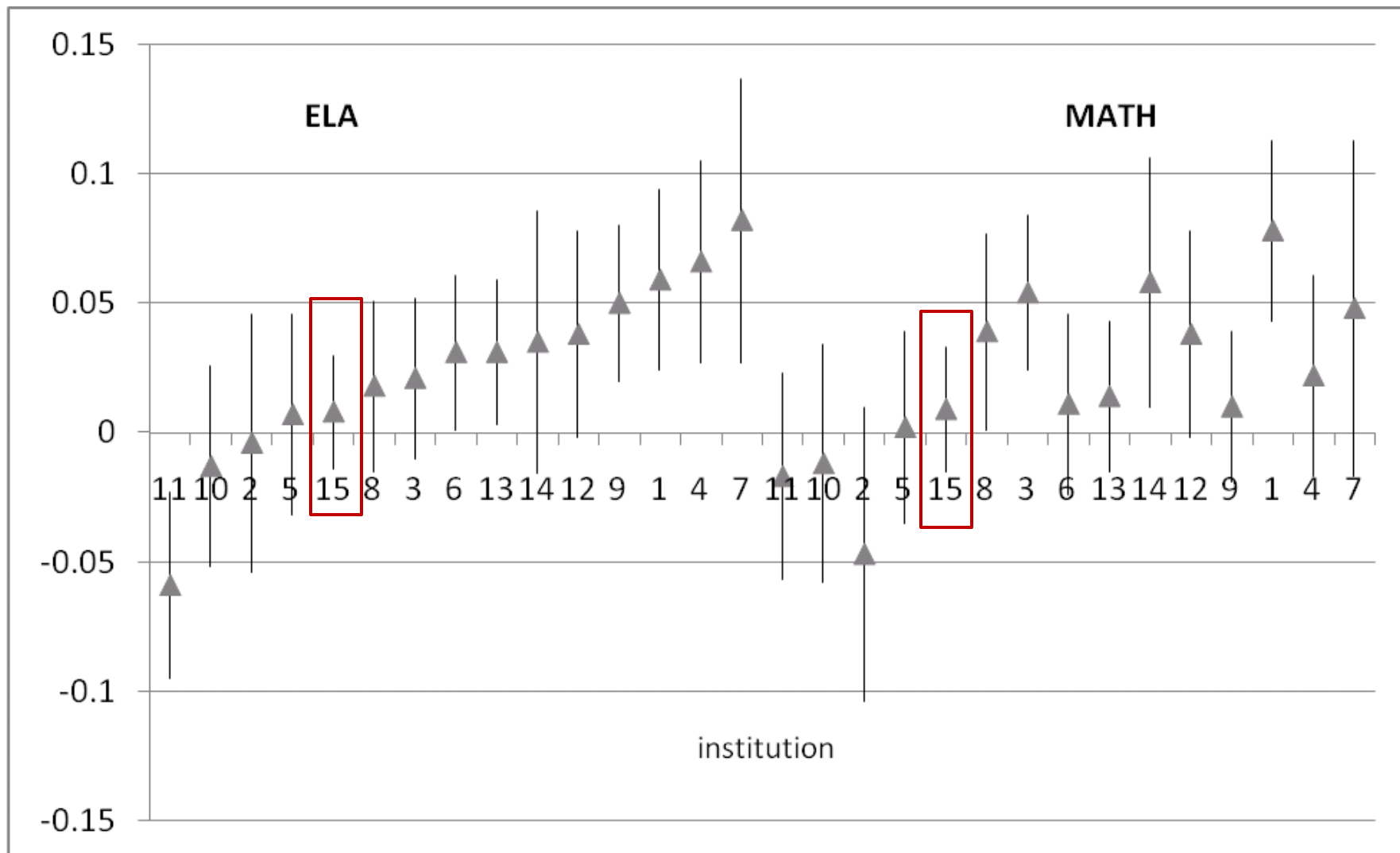
By what standards? What metrics?

- Fierce debates regarding the best way to prepare teachers,
- Lack of any consistent data regarding teacher preparation,
- Continuing disagreements regarding appropriate outcomes and metrics,
- *“There is currently little definitive evidence that particular approaches to teacher preparation yield teachers whose students are more successful than others..,”*—National Research Council, 2010

Accountability—What constitutes effective teacher preparation?

- Programs work with school districts to meet the teaching needs of the schools where their teachers are typically placed;
- The quality of programs is judged on the empirically documented effectiveness of their graduates in improving the outcomes of the students they teach;
- Because teachers substantially improve in quality over the first few years of their careers, teacher retention plays a role in program effectiveness.

Accountability—Institutional effects from longitudinal data, what do we learn?



Accountability—Problems with value-added/longitudinal data—the usual suspects

- VA only for teachers tested grades and subjects, typically math and reading in grades 4 through 8;
- Effective teachers do more than just improve outcomes as measured by standardized tests;
- Measurement error in tests is large, creating value-added estimates that have large standard errors;
- Empirically isolating the effect of preparation from other aspects of teachers and schools is tricky.

Accountability—Additional VA problems for assessing teacher preparation

- Value-added works by comparing gains of students taught by teachers from different programs; in assessing programs sample size important.
 - Is the appropriate unit of accountability institution or program?
 - What is the appropriate accounting period?
 - Should we only include novice teachers?
- Depending on the answers these questions, may be able to assess only a few programs

Accountability—Multiple Measures of Effectiveness

- Teacher observation protocols identifying the behaviors of teachers that are validated to student outcomes
- Value-added measures
- Empirically documented success at delivering curriculum that is been shown to cause improved student outcomes

Research—How can programs add value?

- Selection: Who enters, how does that matter, and how can we influence it?
- Preparation: What preparation content makes a difference?
- Timing: Does it matter when teachers receive specific aspects of preparation?
- Retention: Why is retention important to program value added and what can affect it?

Research—Random assignment experimental design

- Most aspects of preparation are open to experimental manipulation
- Proposal:
 - carefully implement a series of field experiments where program participants across several schools of education are randomly assigned to specific preparation strategies, e.g., within selection, content and timing
 - Rigorously evaluate these experiments using mixed methods to understand the main effects but also explore the processes that led to outcomes

Research papers at

www.teacherpolicyresearch.org