

Establishing **Evidence** Elevating **Standards** Enriching **Policy**



Using a Randomized Controlled Trial to Study Teacher Induction

Martha M. Bleeker

Co-authors: Steven Glazerman, Amy Johnson, Sarah Dolfen, Eric Isenberg,
Julieta Lugo-Gil, Mary Grider, Edward Britton

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Background

- **40-50% of teachers leave within the first 5 years (Ingersoll and Smith, 2003)**
- **More “qualified” teachers have higher rates of turnover (Lankford et al., 2002)**
- **High teacher turnover can hurt student achievement and impose high costs on districts (Darling-Hammond, 2000; King and Newmann, 2000)**
- **New teachers produce fewer gains in student achievement (Rivkin et al., 2001)**

Past Research on Induction

- Induction is common in most districts; but induction that is intensive, comprehensive, and sequentially delivered in response to teachers' needs is rare
- Teachers who get first-year induction (and more types of support) are less likely to leave teaching (Smith and Ingersoll, 2004)
- Mentoring has a positive effect on retention (review of 10 studies; Ingersoll and Kralik, 2004)
- Districts with more intensive mentoring have higher student achievement (Fletcher, Strong, and Villar, 2006)

Current Study

Sponsored by US Department of Education, Institute of Education Sciences (IES)

Focus on “comprehensive” teacher induction

- **National competition to select induction providers**
- **Random assignment of schools within districts**
- **Treatment group: comprehensive induction program**
- **Comparison group: prevailing practice of district**
- **Service provision during 2005-2006**
- **Track teachers for two following years**

Study Objectives

To provide empirical evidence on whether provision of comprehensive induction support will help districts develop and retain beginning teachers

Compare differences in the types and intensity of induction services received by treatment and control teachers

Estimate impacts of induction services on:

- Teacher attitudes
- Classroom practices
- Student achievement
- Teacher retention

Sample Selection

- **Districts selected based on size, poverty, need for induction, and willingness to participate**
- **Eliminated districts that were already implementing induction programs similar to ours**
- **Each elementary school had to have at least one eligible teacher in grade K-6 with a self-contained classroom**
- **Teachers had to be new to the profession and not in supported program (e.g., not part of alternative teacher preparation program)**

Sample Sizes

	Mean	Range	Total
Districts			17
Schools per district	24.6	15 to 42	418
Teachers per district	59.4	25 to 122	1,009
Mentors per district	2.5	2 to 5	44
Mentor caseload	11.5	7 to 14	

Comprehensive Induction Support

Two service providers were selected:

- Educational Testing Service (ETS)
- New Teacher Center at Santa Cruz (NTC)

Provided similar services:

- Yearlong curriculum with a focus on professional practice
- Weekly meetings with full-time mentors (1:12 ratio)
- Observations of practice
- Monthly professional development
- Mentor training and support
- Administrator orientation
- Monthly on-site guidance
- Monthly study group (ETS only)

Data Sources

- **Mentor Survey**
- **Teacher Surveys**
 - **Background Survey**
 - **Induction Activities Surveys**
 - **Mobility Surveys**
- **Classroom Observations (Literacy)**
- **School Records Data**
- **Teacher Focus Groups**

Analyses

Multivariate analysis, with a hierarchical model and weighting for non-response, to measure effects of comprehensive teacher induction on:

- **Types and intensity of induction services received, relative to prevailing practice**
- **Teachers' classroom practices**
- **Student achievement**
- **Teacher retention**
- **Composition of teachers who remain in teaching profession**

Findings

Measure the effects of comprehensive teacher induction on:

- Types and intensity of induction services received, relative to prevailing practice → Positive Impacts

Treatment Teachers Had More Formal Mentoring Relationships

Percentage who had...	Treatment	Control	Difference
A mentor	94	83	11*
An assigned mentor	93	75	17*
More than one mentor	29	17	13*
A full-time mentor	74	13	61*
A mentor who was also a teacher	30	66	-35*

* Statistically significant at the 0.05 level, two-tailed test

Treatment Teachers Spent More Time Meeting with Mentors

Minutes per week	Treatment	Control	Difference
“Usual” meetings with mentor	59	38	21*
Informal meetings with mentor	36	36	0
Total meeting time with mentor	95	74	21*

* Statistically significant at the 0.05 level, two-tailed test

Treatment Teachers Received More Mentor Support in 22 Areas

Percentage of teachers who received mentor support in last 3 months in...	Treatment	Control	Difference
Reflecting on instructional practice	68	33	36*
Classroom management	65	40	25*
Discipline/behavior	62	42	20*
Multiple instructional strategies	61	38	23*
Teaching to varying ability levels	58	36	22*
Motivating students	57	36	21*
District/state standards	57	34	23*
School culture and policies	54	45	9*

* Statistically significant at the 0.05 level, two-tailed test

Treatment Teachers Engaged in More Professional Development Activities

Percentage of teachers who...	Treatment	Control	Difference
Kept a written log	40	28	12*
Kept a portfolio and analysis of student work	78	74	4
Worked with a study group of new teachers	68	27	41*
Observed others teaching in their classrooms	70	42	28*
Met with principal to discuss teaching	68	69	-1
Met with literacy/math coach	69	66	2
Met with resource specialist	60	63	-2

* Statistically significant at the 0.05 level, two-tailed test

Control Group Received Considerable Support

Mentoring

- 75% had an assigned mentor
- 74 minutes/week with mentor (38% during school hours)
- 81% say mentor meeting time is adequate
- Most mentors were other teachers in the school

Professional Development

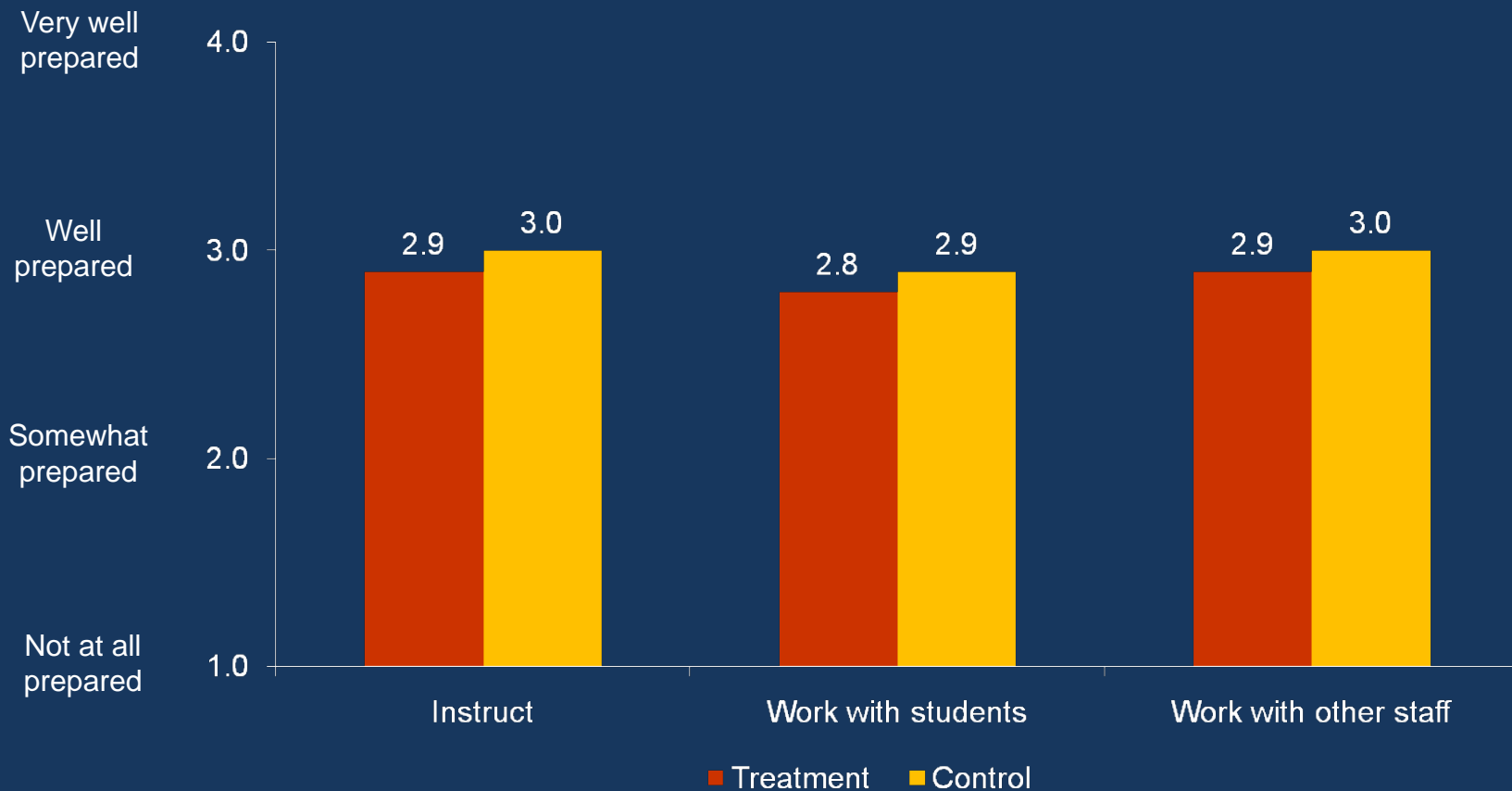
- 42% observed others teaching

Results

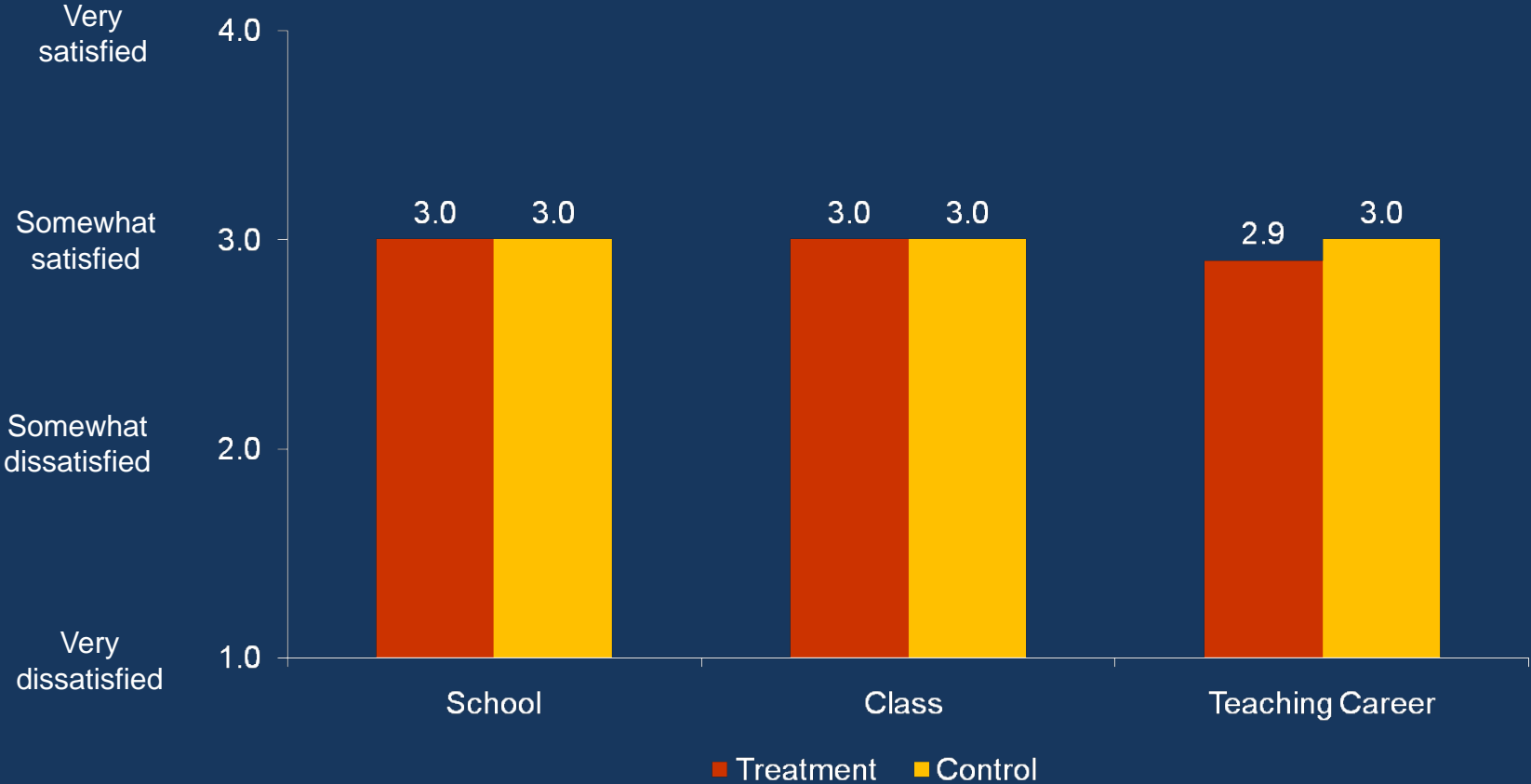
Measure the effects of comprehensive teacher induction on:

- Types and intensity of induction services received, relative to prevailing practice → Positive Impacts
- Teachers' attitudes → No Positive Impacts

No Impact on Teachers' Feelings of Preparedness



No Impact on Teacher Satisfaction

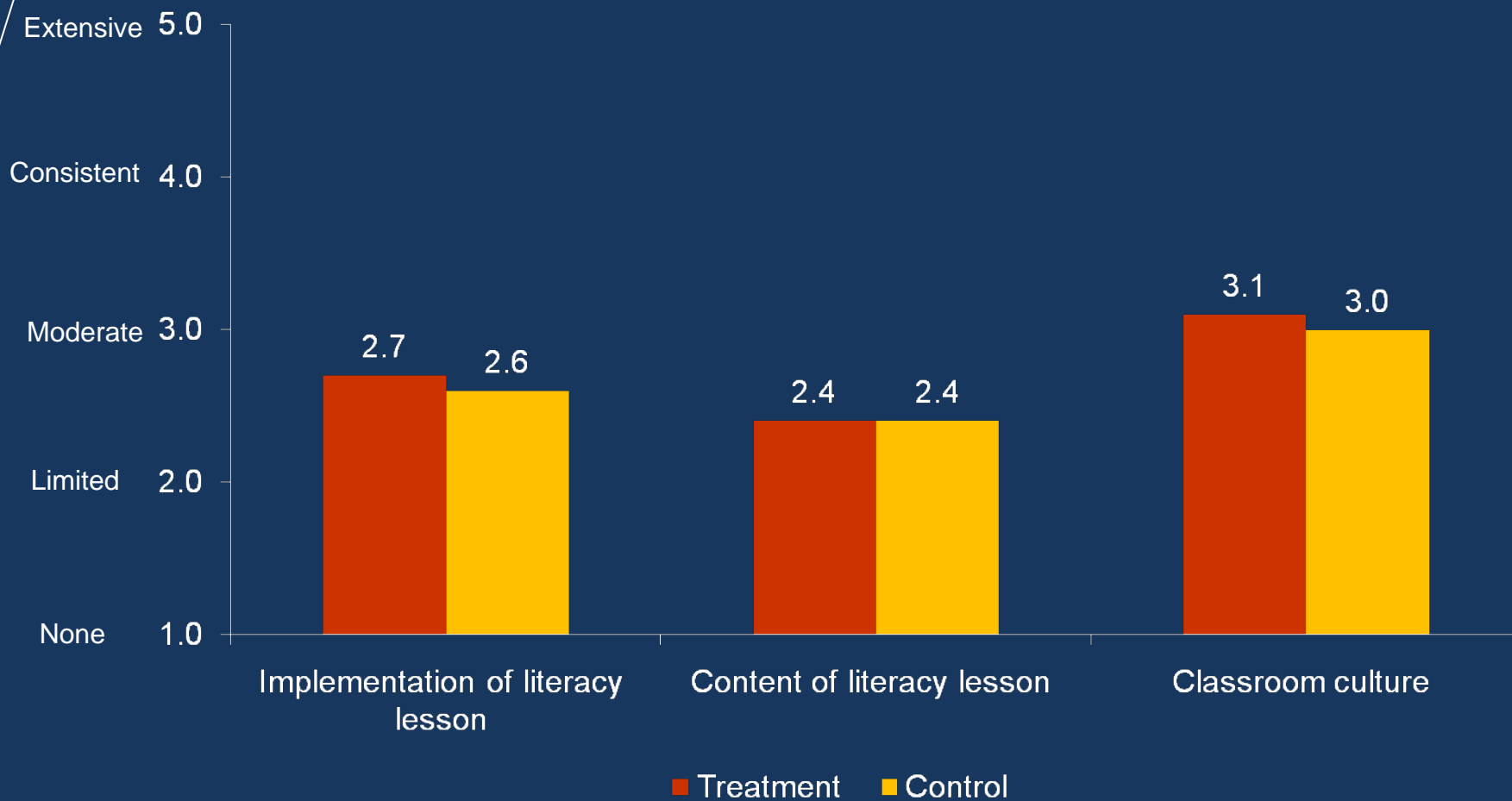


Results

Measure the effects of comprehensive teacher induction on:

- Types and intensity of induction services received, relative to prevailing practice → Positive Impacts
- Teachers' attitudes → No Positive Impacts
- Teachers' classroom practices → No Positive Impacts

No Impacts on Classroom Practices



No differences are statistically significant at the 0.05 level.

Results

Measure the effects of comprehensive teacher induction on:

- Types and intensity of induction services received, relative to prevailing practice → Positive Impacts
- Teachers' attitudes → No Positive Impacts
- Teachers' classroom practices → No Positive Impacts
- Student achievement → No Positive Impacts

No Positive Impacts on Test Scores

Grade	Impact (E.S.)	P-value	#Students	#Teachers
2 Reading				
3 Reading				
4 Reading				
5 Reading				
All Grades, Reading	0.01	0.735	4,899	283
2 Math				
3 Math				
4 Math				
5 Math				
All Grades, Math	-0.05	0.184	4,412	261

* Statistically significant at the 0.05 level, two-tailed test

No Positive Impacts on Test Scores

Grade	Impact (E.S.)	P-value	#Students	#Teachers
2 Reading	-0.22*	0.034	543	42
3 Reading	-0.13	0.119	1,113	75
4 Reading	0.04	0.421	1,679	108
5 Reading	0.01	0.843	1,516	81
All Grades, Reading	0.01	0.735	4,899	283
2 Math	-0.38*	0.000	472	35
3 Math	-0.26*	0.002	837	65
4 Math	0.03	0.617	1,545	99
5 Math	-0.04	0.549	1,510	81
All Grades, Math	-0.05	0.184	4,412	261

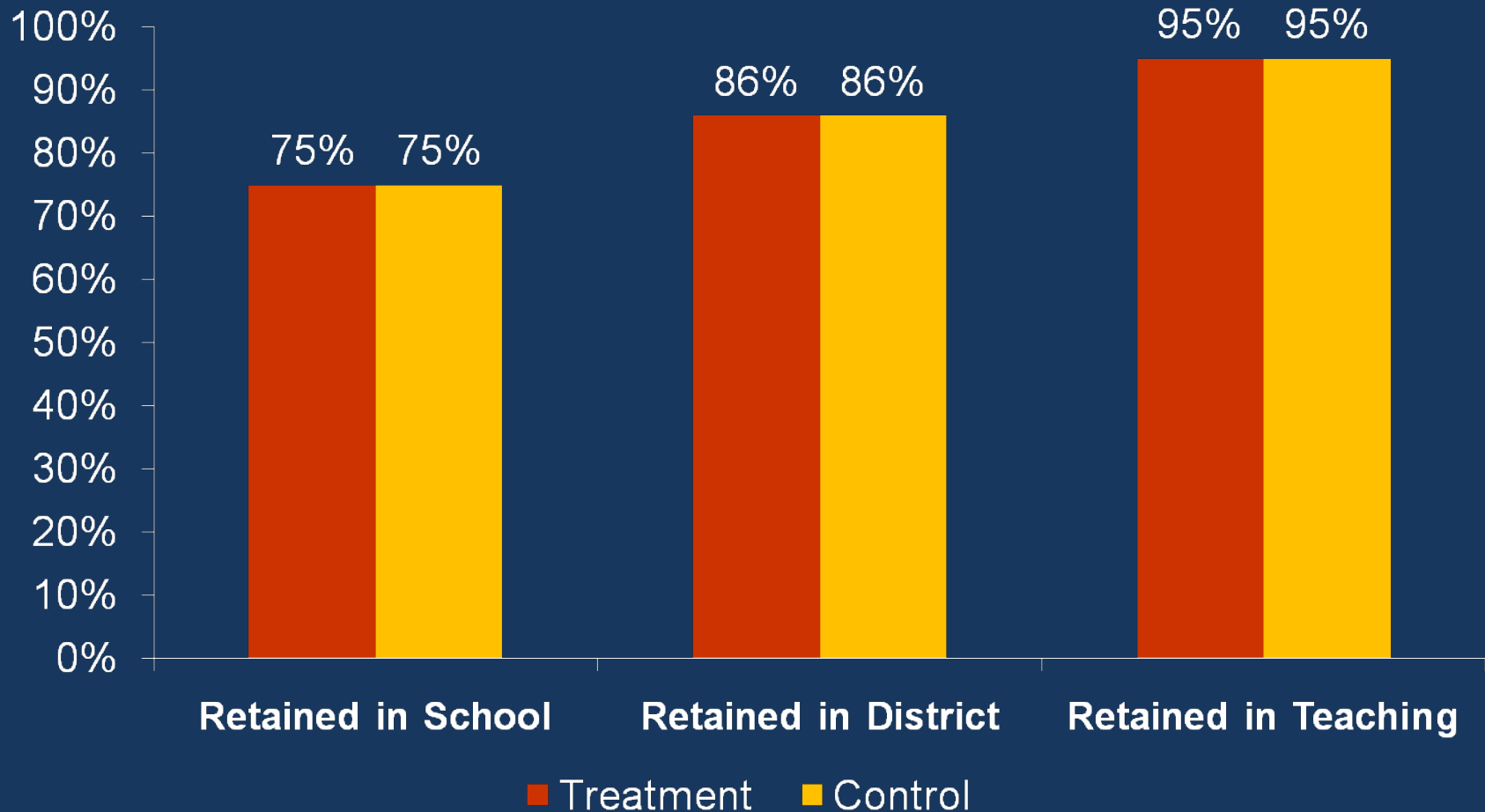
* Statistically significant at the 0.05 level, two-tailed test

Results

Measure the effects of comprehensive teacher induction on:

- Types and intensity of induction services received, relative to prevailing practice → Positive Impacts
- Teachers' attitudes → No Positive Impacts
- Teachers' classroom practices → No Positive Impacts
- Student achievement → No Positive Impacts
- Teacher retention → No Impacts

No Impact on Teacher Mobility



No differences are statistically significant at the 0.05 level.

Summary of First Year Findings

- **Treatment group received more support...
...but control group received support too.**
- **No positive impacts on teacher attitudes**
- **No impact on classroom practices**
- **No positive impact on student achievement**
- **No impact on teacher retention**

Teacher Focus Groups

- **8 groups: 4 treatment FG's, 4 control FG's**
- **Conducted after teachers' second year of teaching (summer 2007)**
- **Groups included 66 teachers (35 treatment and 31 control teachers)**
- **Provided insight into possible explanations for the study's experimental findings**
- **Not statistically representative of the study sample**

Focus Group Perspectives

- Mentors difficult to access and unable to respond as quickly as colleagues and mentors who worked in the school.
- Mentors not as familiar with teacher's subject or grade level.
- Teachers were overwhelmed by non-instructional school duties and students who needed extra attention.
- Time demands of program were overwhelming, thereby reducing the amount of preparation time.
- PD sessions were redundant with district sessions and held at inconvenient times/locations.
- Challenging to implement changes to practices during the first year.

Future Reports

Year 2

- Provide second year of services to 7 districts
- Continue to survey teachers and collect student test score data
- Report on each district

Year 3

- Continue to survey teachers and collect student test score data
- Report on each district

The Year 1 report can be downloaded here:

<http://www.mathematica-mpr.com/publications/pdfs/teachinduction1.pdf>

