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Evaluation of Teachers Trained Through Different Routes to Certification

Presentation to the National Conference of State Legislatures

December 2009

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Motivation

- **Alternative certification (AC) programs supply increasing numbers of teachers**
- **Debates on whether AC programs adequately prepare teachers for the classroom**
- **The effectiveness of different training strategies has not been rigorously studied**

What are AC Programs?

- **Allow teachers to begin teaching before completing required coursework**
- **Typically require less coursework than traditional certification (TC) programs and no student teaching**
- **Have perceived advantages and disadvantages**
 - Reduce barriers to entry (positive)
 - Produce teachers with inadequate training (negative)

Previous Research

- Numerous rigorous studies on selective AC programs, but are mainly about TFA and NYC Teaching Fellows
- Most AC programs are not highly selective with admission requirements similar to TC programs
- Study expands evidence on AC teachers by examining teachers from less selective programs in 7 states

Research Questions

- 1. What are the effects on student achievement of teachers trained through different routes to certification?**
- 2. What aspects of teacher preparation are associated with teacher effectiveness?**
 - Amount of coursework
 - Timing of coursework
 - Content of coursework

Study Design

Research Design and Participants: Randomly assign students to novice AC or TC teacher in the same grade and school to create several mini-experiments

Analysis: Compare outcomes of students randomly assigned to AC teacher to those randomly assigned to TC teacher

Study design: Provides a test of the effectiveness of teachers from different preparation programs, not direct test of the programs

Selecting AC Programs

- Focused on less-selective programs, admissions requirements similar to TC programs
- Divided sample into AC programs with relatively low and high coursework requirements

Geographic Distribution of Sample

	Districts	Schools	AC	Teachers	
				TC	Total
California	5	15	20	18	38
Illinois, Wisconsin, Louisiana, Georgia	7	12	15	16	31
New Jersey	3	9	9	9	18
Texas	5	23	43	44	87
Total	20	63	87	87	174

Grade Distribution of Sample

Grade	Number of Mini-Experiments
Kindergarten	20
First	30
Second	14
Third	9
Fourth	11
Fifth	6
Total	90

Baseline Measures of Students

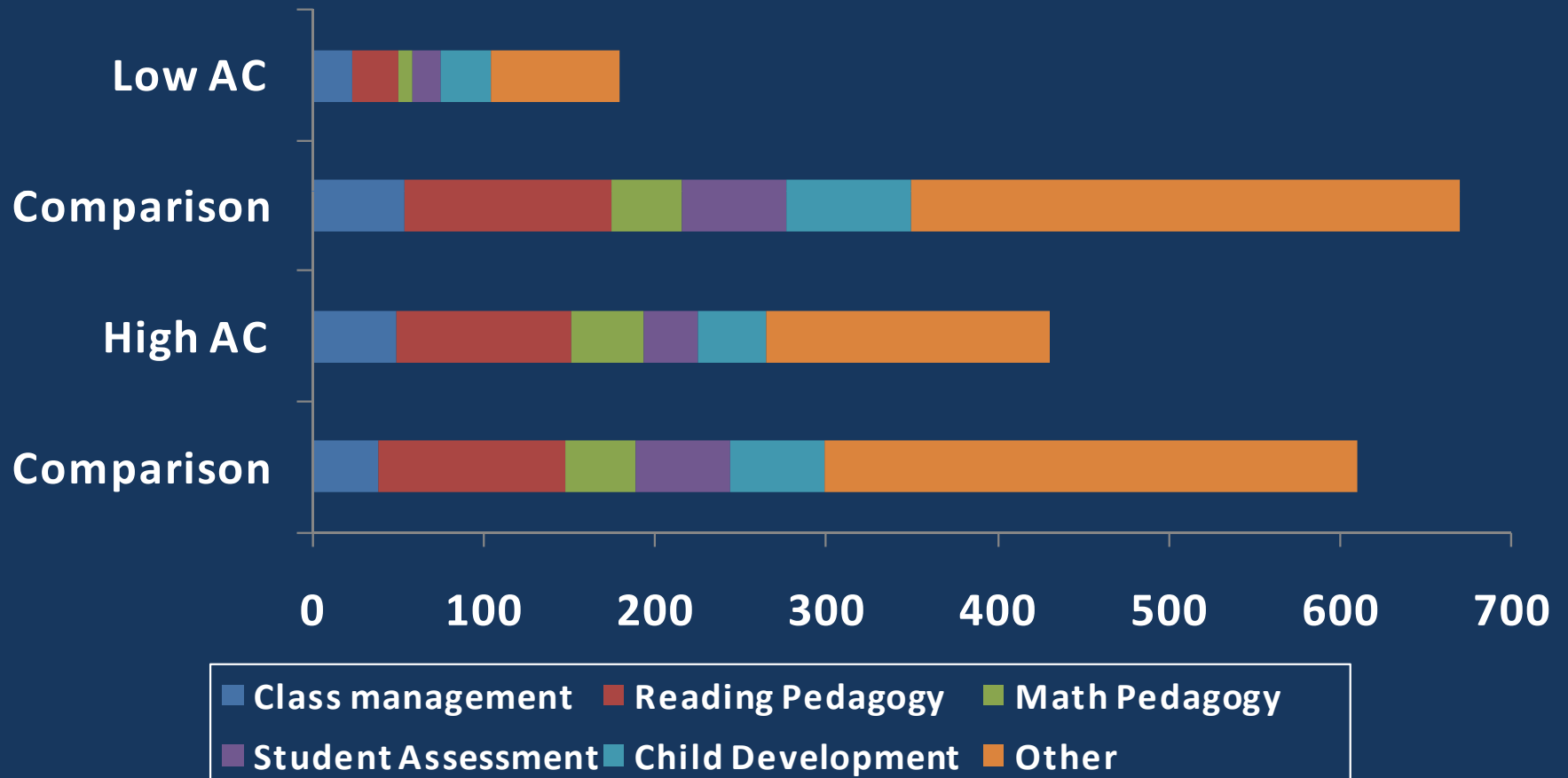
	AC Classrooms	TC Classrooms	P-Value
Reading Pretest	38.71	38.03	0.38
Math Pretest	42.07	42.14	0.92
Free/Reduced Lunch Eligible	75%	78%	0.08
Male	51%	49%	0.37
Nonwhite	92%	91%	0.56
Total Students	1,276	1,334	

Data

- **Student achievement**
 - California Achievement Test, 5th edition
- **Teacher Practices**
 - Vermont Classroom Observation Tool
 - Principal ratings
- **Teacher Characteristics**
 - Teacher Survey
- **Program Characteristics**
 - AC and TC program interviews

Findings

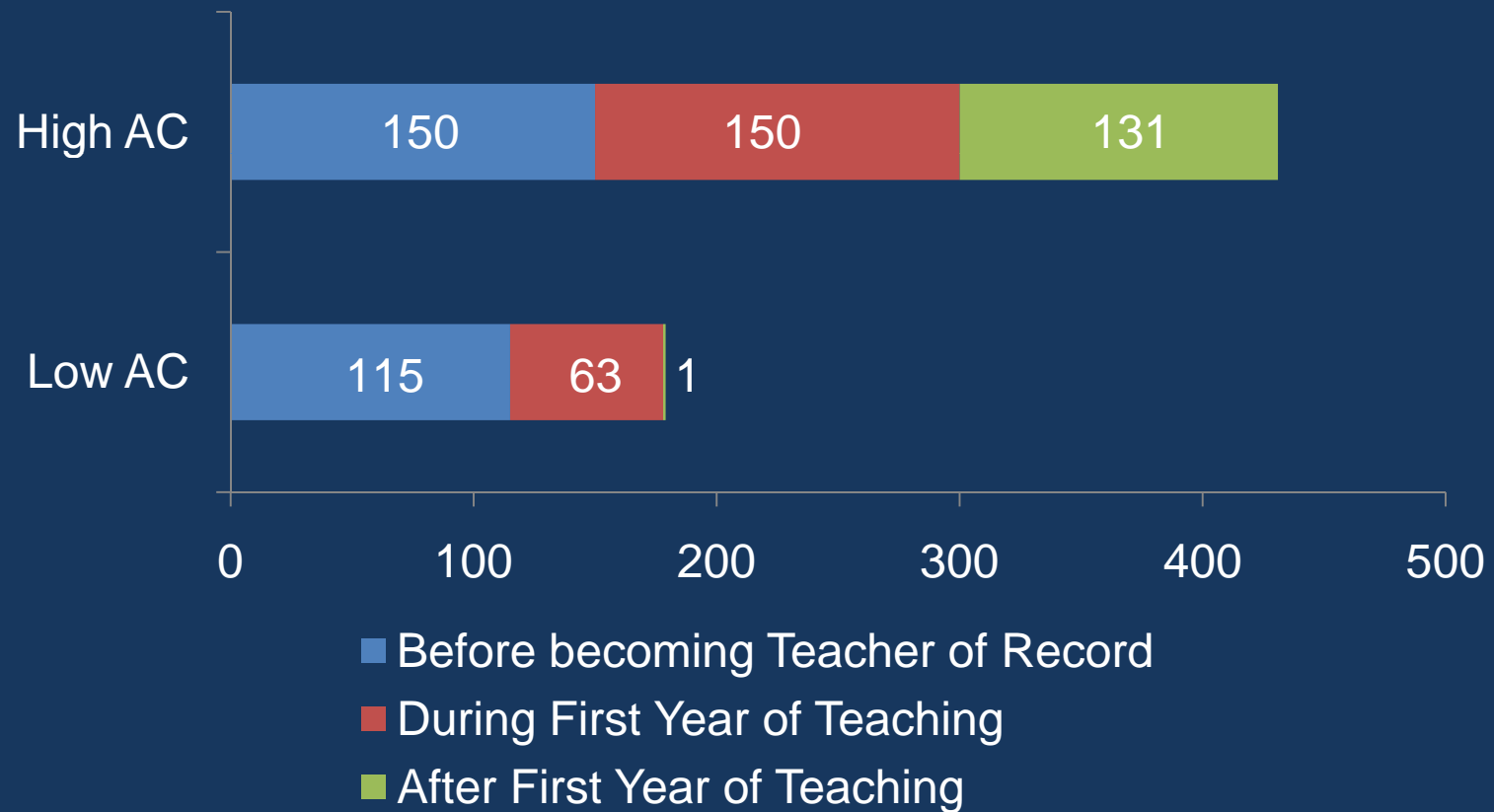
Required Coursework Hours



AC-TC Differences in Required Coursework



Timing of Required Coursework Hours



Teacher Characteristics

	<u>Low Coursework</u>			<u>High Coursework</u>		
	AC	TC	<i>p</i> -Value	AC	TC	<i>p</i> -Value
White	49%	74%	.02*	41%	70%	.01*
Black	40%	20%	.01*	32%	8%	.01*
Female	96%	98%	.56	79%	89%	.21
Have Children	70	28	0.00**	38	30	0.41
Experience (yrs)	2.4	3.0	.06	2.7	2.8	.51
Age (yrs)	34	28	.00**	34	30	.01*
N	46	46		42	44	

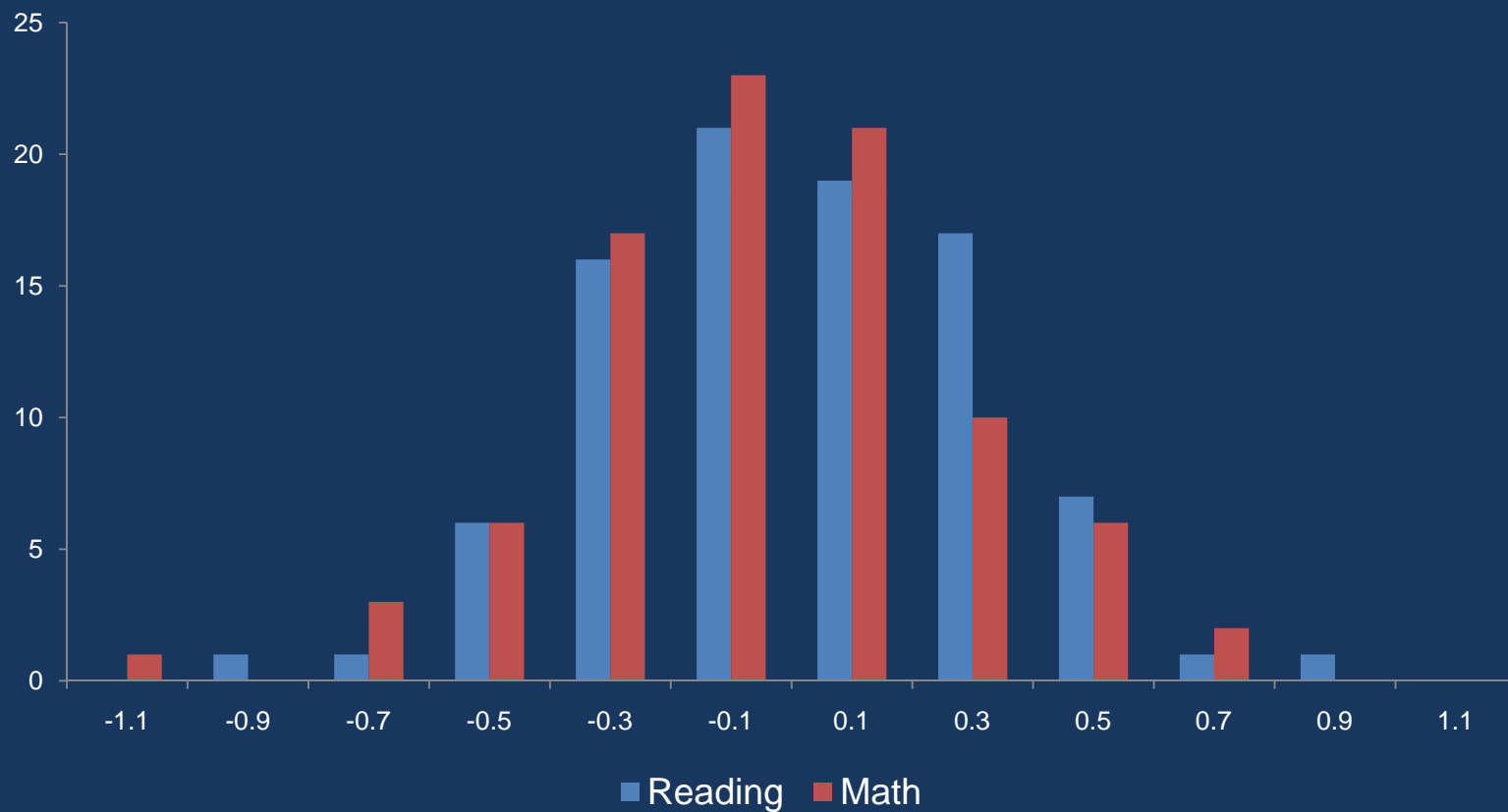
Teacher Characteristics

	<u>Low Coursework</u>			<u>High Coursework</u>		
	AC	TC	<i>p</i> -Value	AC	TC	<i>p</i> -Value
SAT Score	930	959	.43	1,010	1,013	.95
Selective Undergraduate (%)	15.0	31.0	0.09	26.0	33.3	0.50
Education Major	*	78.3	0.00**	21.4	56.8	0.00**
Currently taking courses	30.4	19.6	0.24	57.1	29.5	0.01**
N	46	46		42	44	

Experimental Results

	AC Classroom Average score	TC Classroom Average Score	Effect Size	<i>p</i> -Value
<i>Reading</i>				
Overall	38.51	38.62	-0.01	0.84
Low Coursework	38.29	38.50	-0.01	0.81
High Coursework	38.76	38.76	0.00	1.00
<i>Math</i>				
Overall	41.75	42.77	-0.05	0.12
Low Coursework	41.52	42.12	-0.03	0.56
High Coursework	42.03	43.53	-0.07	0.10

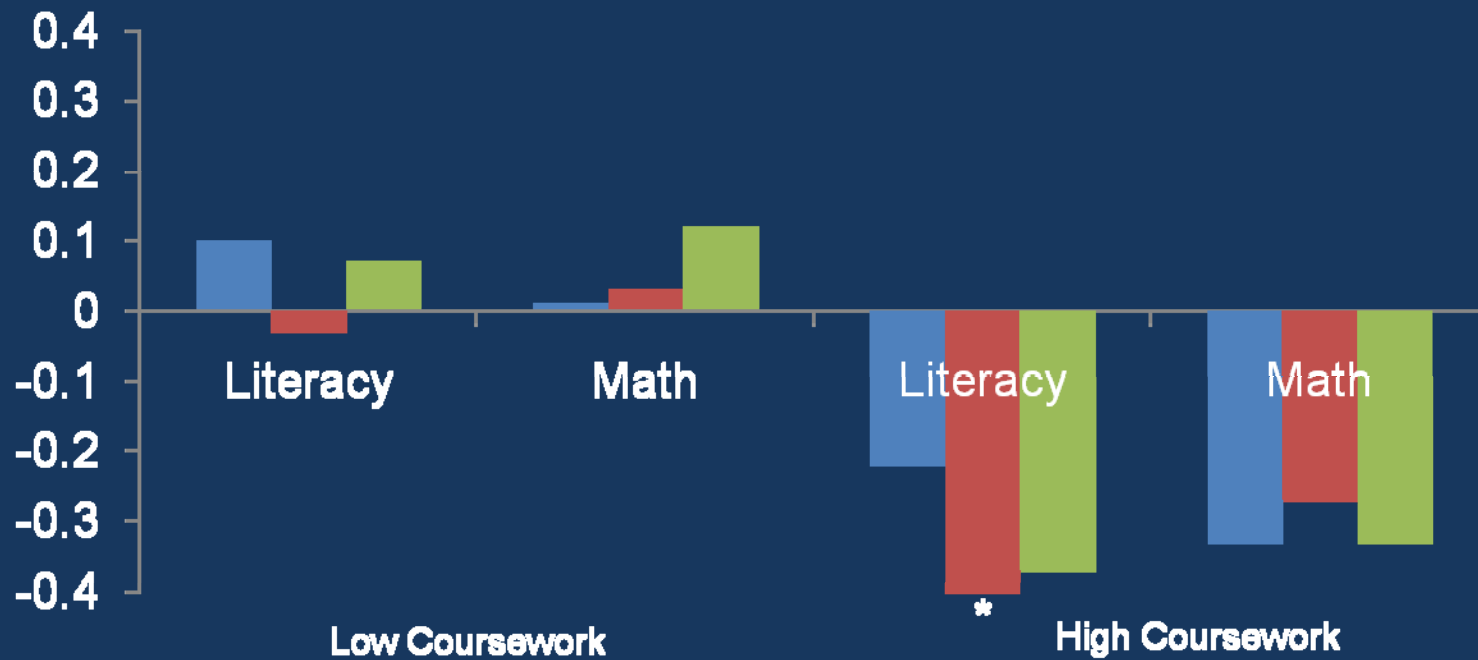
Distribution of Effects



Results for Subgroups

- **Students in California with AC teachers scored statistically lower in math than students of TC counterparts (effect size = $-.13$)**
- **Students of AC teachers taking coursework scored lower in math than students of TC counterparts (effect size = $-.09$)**
- **No other subgroups showed statistically significant differences**

Teacher Practices



■ Content ■ Culture ■ Implementation

Non-Experimental Results

- Differences in AC teachers' characteristics, practices, and training explained about 5 percent of math scores and 1 percent of reading scores
- Students of AC teachers taking coursework scored lower than TC comparisons in reading
- Students of AC teachers with master's degrees scored lower than TC comparisons in reading
- No other differences were statistically significant

Summary

- **Students of AC teachers performed the same, on average, as students of TC teachers in their schools**
- **Variation in the amount and content of required coursework in teacher preparation was not linked to teachers' effectiveness in terms of student achievement**
- **Completing required coursework while teaching is associated with lower student achievement**

Where Can I Find More Information?

- For a summary and link to the report go to <http://www.mathematica-mpr.com/education/teacherprep.asp>
- Questions about the report or other research by Mathematica? Contact me:

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