

Learning to Teach: The Effect of Teacher Preparation on Student Achievement

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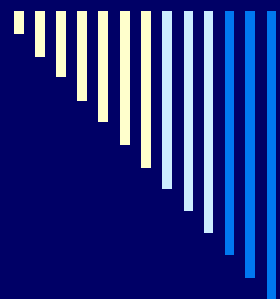


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Motivation for TPP Interest

- NCLB and state reactions
 - Louisiana
 - Massachusetts
 - Ohio
 - Higher Education Act
 - Accountability
 - TPP Programs
-



Prior Research

- Satisfaction with TPP
- Teacher Certification
- Type of Program
 - College Ratings
 - 4- vs. 5-year programs
 - Traditional vs. Alternative Pathways
- The Gap
 - Linking TPP to actual student gains



Theoretical Model

$$A_{it} - A_{it-1} = \Delta A_{it} = \beta_1 \text{Stu}_{it} + \beta_2 \text{Tch}_{ijmt} + \beta_3 \text{TPP}_{jt} + \gamma_i + \delta_j + \lambda_m + u_{it}$$

Where:

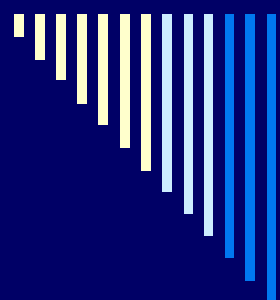
- A_i = standardized KCCT scores
- TPP_{jt} = teacher's preparation program
- Stu_{it} = student-specific characteristics
- Tch_{ijmt} = teacher-specific characteristics

student (γ_i), teacher (δ_j), school (λ_m) fixed effects



Selection Bias

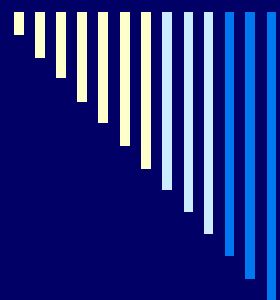
- Selection into TPPs
 - Proxy for individual ACT
 - Teacher fixed effects
 - Selection during TPP
 - Do not know
 - Selection after TPP
 - Do not know
-



TPP and Graduation Year

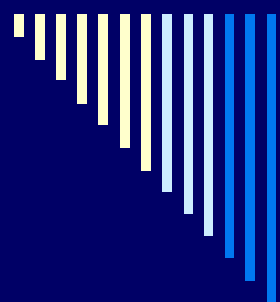
(High School Data)

TPP	Year Bachelor's Degree Received
A	1981-2004
B	1969-2005
C	1965-1999
Other KY	1974-2004
Other States	1967-2005



TPP and Graduation Year (Elementary Data)

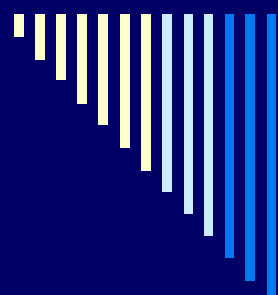
TPP	Year Bachelor's Degree Received
A	1963-1985
B	1967-1985
C	1965-1991
D	1969-1978
E	1970-1989
Other KY	1956-1992



Teacher Stratification

(High School Data)

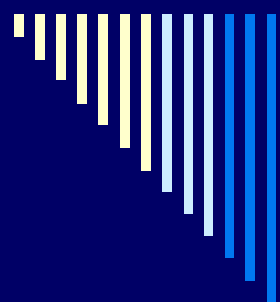
District	TPP A	TPP B	TPP C	Other KY TPP	Out-of- State
1	11	1	0	4	5
2	0	1	5	9	5
3	0	28	1	16	10



Teacher Stratification

(Elementary School Data)

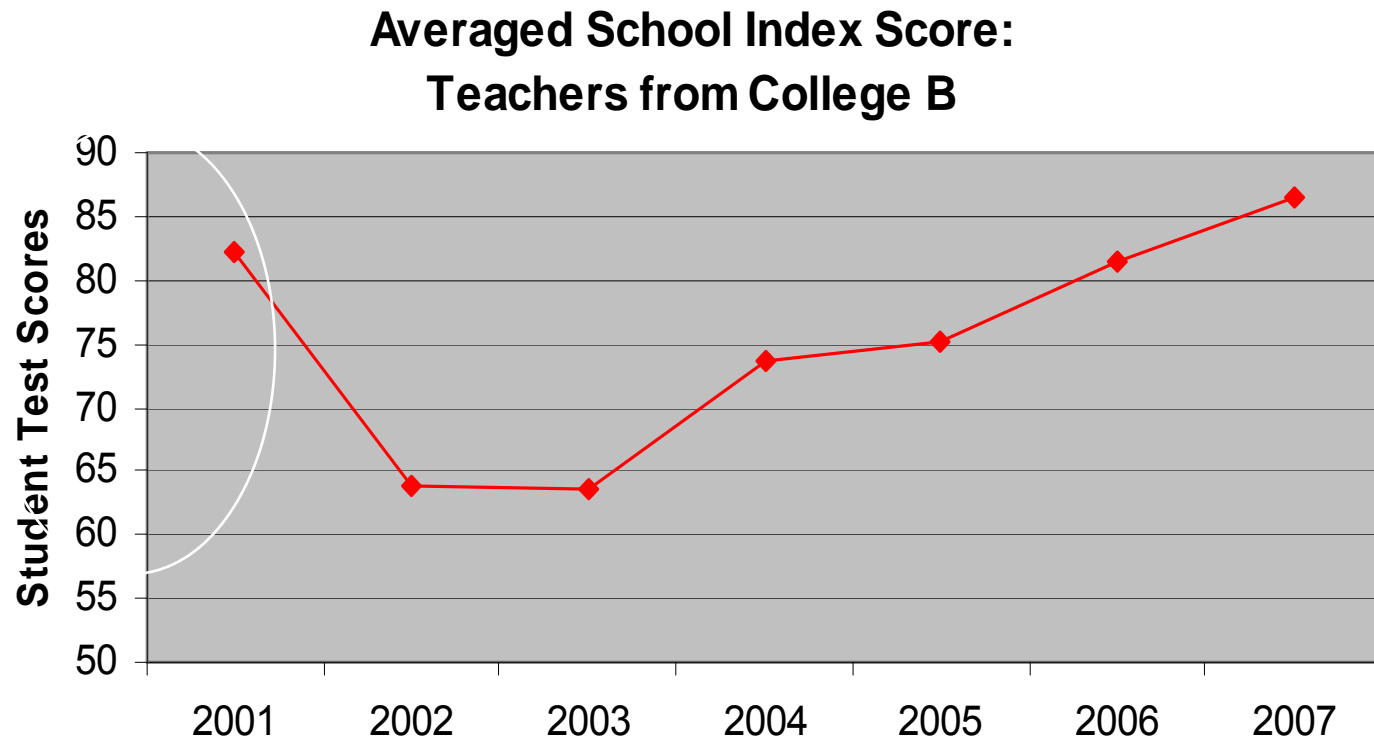
Elem. School	TPP A	TPP B	TPP C	TPP D	TPP E	Other TPP
1	54	0	0	0	0	74
2	0	0	0	44	0	0
3	0	0	154	0	0	110
4	0	0	78	0	0	116
5	0	6	0	0	0	0
6	0	90	0	0	0	0
7	86	0	0	0	62	0



Additional Challenges to Interpretation

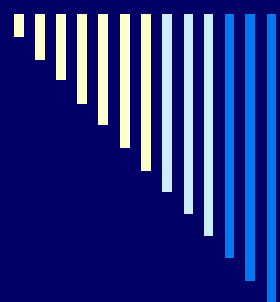
- Trends in scores over time
 - Fixed effects does not control for random spikes/drops
- Need sufficient time panel

Inadequate Time Series



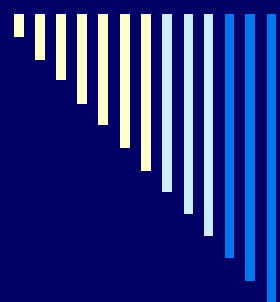
Means (standard deviations)

Student Characteristics		Teacher Char.	
3rd gr Math score	-0.041	Experience	16.95
4th gr Reading score	-0.063	% Female	86.92
5th gr Math score	0.078	% Af American	12.66
% Female	50.78	% Other Race	0.75
% Free lunch	40.68	Overall GPA	3.01
% Reduced lunch	7.62	% TPP A	7.81
% Euro American	60.99	% TPP B	14.08
% Asian American	1.42	% TPP C	10.71
% African American	32.6	% TPP D	2.04
% Latino/a	51.25	% TPP E	11.04
% Other Race	1.92	% Other TPP	7.92
		% TPP F	41.24
		Mean ACT	21.97



New Data

- Same large urban school district
- Focus on new teachers
- Minimum three year time period
- Results soon



Other KY Data Research

- Effects of AMSP (Professional Development for Math and Science Teachers) on Student Learning
- Relationship between teacher wages and teacher recruitment, retention, and mobility