Impact of Teacher Professional Development Program on Student Achievement in China

Supplemental Table 1. Heterogeneous Effects of NTPDP on Student Academic Performance, by Student Characteristics

Dependent variable: Endline student math score (SD)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.Teacher participates in teacher training (1=yes, 0=no)	-0.09** (0.04)	-0.09** (0.04)	-0.10*** (0.04)	-0.11*** (0.04)	0.23 (0.22)	-0.05 (0.05)	-0.14*** (0.04)	-0.11** (0.04)
2. Teacher participates in teacher training *Baseline teacher math teaching knowledge test score	0.03 (0.03)							
3. Teacher participates in teacher training *Baseline student math score		0.01 (0.03)						
4. Teacher participates in teacher training *Student is a left-behind child			0.08 (0.09)					
5. Teacher participates in teacher training *Student lives at school				0.27* (0.12)				
6. Teacher participates in teacher training *Student age					-0.03 (0.02)			

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
7. Teacher participates in teacher training *Student female						-0.07 (0.06)		
8. Teacher participates in teacher training *Mother completed junior high school							0.12* (0.06)	
9. Teacher participates in teacher training *Father completed junior high school								0.05 (0.06)
10. Baseline teacher math teaching knowledge test score	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.03 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
11. Baseline student math score	0.54*** (0.02)	0.53** (0.02)	0.54*** (0.02)	0.54*** (0.02)	0.54*** (0.02)	0.54*** (0.02)	0.54*** (0.02)	0.54*** (0.02)
12. Student is a left-behind child	-0.03 (0.04)	-0.03 (0.04)	-0.06 (0.05)	-0.03 (0.04)	-0.03 (0.04)	-0.03 (0.04)	-0.02 (0.04)	-0.03 (0.04)
13. Student lives at school	-0.10* (0.06)	-0.11* (0.06)	-0.10* (0.06)	-0.19*** (0.07)	-0.11* (0.06)	-0.10* (0.06)	-0.11* (0.06)	-0.11* (0.06)
14. Student age	-0.05*** (0.02)	-0.05*** (0.02)	-0.05*** (0.02)	-0.06*** (0.02)	-0.04** (0.02)	-0.05*** (0.02)	-0.05*** (0.02)	-0.05*** (0.02)
15. Student female	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	-0.02 (0.03)	0.00 (0.04)	-0.02 (0.03)	-0.02 (0.03)

16. Mother completed junior high school	0.06	0.05	0.06	0.05	0.05	0.05	0.01	0.05
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)	(0.03)
17. Father completed junior high school	0.01	0.01	0.01	0.01	0.01	0.01	0.01	-0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
18. Paired Control Group	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Teacher Characteristics	YES	YES	YES	YES	YES	YES	YES	YES
County Dummy	YES	YES	YES	YES	YES	YES	YES	YES
Constant	0.43**	0.44**	0.45**	0.47***	0.34**	0.43**	0.46***	0.45***
	(0.18)	(0.18)	(0.18)	(0.18)	(0.19)	(0.18)	(0.18)	(0.18)
Observations	3011	3011	3011	3011	3011	3011	3011	3011
R-squared	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39

Source: Authors' survey

Notes: a) Robust standard errors in parentheses; b) Baseline test score is the score of the standardized Math test that was given to sample students. *** $p<0.01$, ** $p<0.05$, * $p<0.1$

Supplemental Table 2. Heterogeneous Effects of NTPDP on Student Academic Performance, by Teacher Characteristics

Dependent variable: Endline student math score (SD)	(1)	(2)	(3)	(4)	(5)
1.Teacher participates in teacher training (1=yes, 0=no)	-0.13 (0.12)	-0.10** (0.04)	-0.07* (0.04)	-0.11*** (0.04)	-0.11*** (0.04)
2. Teacher participates in teacher training *Teacher Female	0.04 (0.12)				
3. Teacher participates in teacher training *Teacher completed university		0.07 (0.09)			
4. Teacher participates in teacher training *Teacher majored in math			-0.06 (0.09)		
5. Teacher participates in teacher training *Teacher has highest rank				0.16 (0.11)	
6. Teacher participates in teacher training *Teaching experience					0.11 (0.09)
7. Baseline teacher math teaching knowledge test score	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)	0.02 (0.02)
8. Baseline student math score	0.54*** (0.02)	0.54*** (0.02)	0.54*** (0.02)	0.54*** (0.02)	0.54*** (0.02)
9. Teacher Female	0.18*** (0.07)	0.20*** (0.06)	0.21*** (0.06)	0.19*** (0.06)	0.18*** (0.06)
10. Teacher completed university	-0.16*** (0.05)	-0.18*** (0.05)	-0.17*** (0.05)	-0.18*** (0.05)	-0.18*** (0.05)
11. Teacher majored in math	0.06 (0.05)	0.05 (0.05)	0.08 (0.05)	0.08 (0.05)	0.07 (0.05)
12. Teacher has highest rank	-0.09 (0.05)	-0.08 (0.05)	-0.08 (0.05)	-0.13** (0.06)	-0.07 (0.05)
13. Teaching experience	-0.04 (0.05)	-0.04 (0.05)	-0.04 (0.05)	-0.04 (0.05)	-0.07 (0.06)

14. Paired Control Group	0.01	0.01	0.01	-0.02	-0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.04)
Student Characteristics	YES	YES	YES	YES	YES
County Dummy	YES	YES	YES	YES	YES
Constant	0.45**	0.42**	0.47***	0.43**	0.48***
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
Observations	3011	3011	3011	3011	3011
R-squared	0.39	0.39	0.39	0.39	0.39

Source: Authors' survey

Robust standard errors in parentheses

*** $p<0.01$, ** $p<0.05$, * $p<0.1$