

**Appendix Table 1: NTPS Response Rates by University**

<b>NC University</b>	<b>Employment Rate</b>	<b>Survey Responses</b>	<b>Traditional Response Rate</b>	<b>Adjusted Response Rate</b>	<b>Quality Prep Mean &amp; SD</b>	<b>Opportunities to Learn Mean &amp; SD</b>
University 1	70.34	52	37.41	26.31	4.12 (0.65)	3.63 (0.79)
University 2	71.06	519	46.67	33.16	3.96 (0.66)	3.44 (0.64)
University 3	78.03	75	52.82	41.21	3.93 (0.61)	3.54 (0.52)
University 4	73.75	26	56.52	41.68	3.97 (0.71)	3.59 (0.69)
University 5	60.87	24	64.86	39.48	4.11 (0.47)	3.53 (0.67)
University 6	41.38	6	50.00	20.69	4.11 (0.79)	3.35 (0.77)
University 7	64.64	79	49.38	31.92	3.97 (0.65)	3.38 (0.62)
University 8	66.36	35	53.03	35.19	3.99 (0.56)	3.63 (0.62)
University 9	39.29	8	57.14	22.45	4.04 (0.56)	3.59 (0.80)
University 10	59.46	12	27.27	16.21	4.36 (0.51)	4.07 (0.65)
University 11	72.36	535	46.56	33.69	4.05 (0.63)	3.58 (0.64)
University 12	65.52	72	62.07	40.67	3.92 (0.78)	3.40 (0.82)
University 13	46.67	46	50.55	23.59	4.32 (0.48)	3.84 (0.45)
University 14	60.59	59	46.83	28.37	4.08 (0.83)	3.45 (0.71)
University 15	62.92	40	46.51	29.26	3.94 (0.69)	3.41 (0.81)
University 16	67.21	24	40.00	26.88	4.06 (0.74)	3.67 (0.70)
University 17	68.42	13	37.14	25.41	4.09 (0.62)	3.60 (0.52)
University 18	42.22	43	44.33	18.72	4.12 (0.63)	3.56 (0.71)
University 19	61.96	37	38.14	23.63	4.17 (0.61)	3.65 (0.59)
University 20	66.99	42	50.60	33.90	4.19 (0.51)	3.68 (0.57)
University 21	57.03	39	43.33	24.71	3.98 (0.61)	3.51 (0.67)
University 22	86.08	90	53.25	45.84	4.53 (0.51)	4.05 (0.62)
University 23	51.22	19	65.51	33.55	4.30 (0.48)	3.88 (0.65)
University 24	77.01	28	47.46	36.55	3.91 (0.69)	3.48 (0.76)
University 25	63.29	48	39.34	24.89	4.04 (0.58)	3.55 (0.72)
University 26	60.00	4	20.00	12.00	4.25 (0.42)	3.24 (0.87)
University 27	72.73	16	55.17	40.13	4.09 (0.73)	3.63 (0.64)
University 28	69.48	101	44.69	31.05	3.86 (0.67)	3.26 (0.65)
University 29	70.93	31	52.54	37.27	4.06 (0.65)	3.60 (0.66)
University 30	83.33	41	44.09	36.74	3.99 (0.64)	3.56 (0.72)
University 31	80.38	35	42.68	34.31	3.90 (0.79)	3.33 (0.63)
University 32	62.96	9	50.00	31.48	3.97 (0.80)	3.46 (0.51)
University 33	66.48	278	45.13	30.00	3.92 (0.62)	3.38 (0.64)
University 34	68.38	120	45.28	30.96	3.77 (0.58)	3.43 (0.56)
University 35	75.06	429	43.33	32.52	3.89 (0.68)	3.39 (0.62)
University 36	72.96	300	41.10	29.99	4.02 (0.66)	3.50 (0.64)
University 37	43.01	18	43.90	18.88	4.38 (0.44)	3.77 (0.58)
University 38	65.48	194	37.96	24.86	3.80 (0.62)	3.34 (0.68)
University 39	69.91	269	39.39	27.54	3.89 (0.69)	3.48 (0.68)
University 40	73.58	34	41.46	30.51	4.20 (0.68)	3.58 (0.66)
University 41	64.39	28	33.74	21.73	4.31 (0.51)	3.71 (0.59)

Note: This table displays one-year employment rates, the number of survey responses, and survey response rates for each North Carolina TPP. Traditional response rates represent the number of respondents divided by the total number of first-year teachers who received the NTPS. Adjusted response rates multiply the traditional response rate by the one-year employment rate. For each TPP, this table also displays descriptive data (mean and standard deviation) for the summary measures for Quality of Teacher Preparation and Opportunities to Learn.

**Appendix Table 2: Factor Loadings for NTPS Items**

NTPS Items	Factor 1	Factor 2	Factor 3
<b><i>Perceptions of Teacher Preparation Quality</i></b>			
Collaborate with colleagues to improve student learning	<b>0.42</b>	<b>0.56</b>	0.24
Set challenging and appropriate goals for student learning and performance	<b>0.44</b>	<b>0.62</b>	0.29
Empower students to become self-directed and productive learners	0.35	<b>0.67</b>	0.34
Maintain discipline and an orderly, purposeful learning environment	0.22	<b>0.64</b>	0.42
Work with parents and families to better understand students and to support their learning	0.23	<b>0.47</b>	<b>0.55</b>
Develop positive and supportive relationships with students	0.30	<b>0.76</b>	0.24
Create an environment of high expectations for all students	0.39	<b>0.72</b>	0.25
Teach in ways that support English language learners	0.22	0.24	<b>0.75</b>
Teach in ways that support students with diverse ethnic, racial, cultural, and socioeconomic backgrounds	0.30	0.34	<b>0.66</b>
Teach in ways that support special education students	0.18	0.24	<b>0.76</b>
Teach in ways that support academically gifted students	0.32	0.25	<b>0.65</b>
Develop a classroom environment that promotes respect and group responsibility	0.35	<b>0.70</b>	0.31
Teach the concepts, knowledge, and skills of your discipline	<b>0.70</b>	0.34	0.07
Align instruction with state standards	<b>0.73</b>	0.29	0.03
Relate classroom teaching to the real world	<b>0.67</b>	0.39	0.24
Use knowledge of student learning and curriculum to plan instruction	<b>0.69</b>	0.38	0.23
Develop a variety of assessments	<b>0.70</b>	0.26	0.33
Provide purposeful feedback to students to guide their learning	<b>0.68</b>	0.29	0.36
Differentiate instruction	<b>0.57</b>	0.29	<b>0.51</b>
Use technology in the classroom to improve learning outcomes	<b>0.59</b>	0.21	0.38
Help students think critically to solve problems	<b>0.65</b>	0.31	0.37
Develop students' questioning and discussion skills	<b>0.64</b>	0.33	<b>0.41</b>
Analyze student performance data	<b>0.68</b>	0.22	<b>0.40</b>
Adapt practice based on research and student performance data	<b>0.65</b>	0.24	<b>0.45</b>
<b><i>Opportunities to Learn</i></b>			
Study stages of child development and learning	0.14	<b>0.47</b>	0.36
Develop strategies for managing student behavior	0.18	<b>0.83</b>	0.30
Develop strategies for establishing classroom procedures	0.30	<b>0.81</b>	0.23
Develop strategies for teaching English language learners	0.11	0.25	<b>0.67</b>
Develop strategies for teaching students from diverse racial, ethnic, cultural, and socioeconomic backgrounds	0.26	0.26	<b>0.66</b>
Develop strategies for teaching students with special needs	0.08	0.13	<b>0.78</b>
Develop strategies for teaching students who are academically gifted	0.27	0.22	<b>0.65</b>
Develop strategies for teaching students of varying ability	0.35	0.22	<b>0.70</b>
Apply state or national standards to instruction	<b>0.77</b>	0.15	0.07
Plan units and lessons	<b>0.80</b>	0.19	0.03
Create formative and summative student assessments	<b>0.81</b>	0.12	0.22
Analyze student assessment data/work to adjust instruction	<b>0.71</b>	0.16	0.38
Provide meaningful and specific academic feedback to students	<b>0.66</b>	0.22	<b>0.43</b>
Develop instructional strategies to promote students' critical thinking skills	<b>0.68</b>	0.21	<b>0.41</b>

Note: This table displays factor loadings from exploratory factor analysis on the Perceptions of Teacher Preparation Quality and Opportunities to Learn sections of the NTPS. All factor loadings of 0.40 or above are bolded. We label the three factors as *Instruction* (factor 1), *Supportive Learning Environments* (factor 2), and *Teaching Diverse Learners* (factor 3).

**Appendix Table 3: Unique Teacher Counts in Models**

	<b>Quality of Teacher Preparation</b>		<b>Opportunities to Learn</b>	
	<b>1<sup>st</sup> Year Teachers</b>	<b>2<sup>nd</sup> Year Teachers</b>	<b>1<sup>st</sup> Year Teachers</b>	<b>2<sup>nd</sup> Year Teachers</b>
<b><i>Completer-Level Measures: Teacher Value-Added</i></b>				
Rich Covariate Adjustment (OLS)	2236	2449	1570	1796
School Fixed Effect	1537	1718	925	1081
<b><i>Completer-Level Measures: Teacher Evaluation Ratings</i></b>				
Rich Covariate Adjustment (OLS)	3235	3193	2320	2316
School Fixed Effect	2545	2501	1591	1573
<b><i>Completer-Level Measures: Teacher Retention</i></b>				
Rich Covariate Adjustment (OLS)	3453	3453	2509	2509
School Fixed Effect	2765	2765	1776	1776

Note: This table displays counts of unique teachers contributing to completer-level analyses of value-added estimates, evaluation ratings, and retention. We provide counts from rich covariate adjustment (OLS) and school fixed effect models.

**Appendix Table 4: Results from Models Excluding Classroom and School Covariates**

	<b>Quality of Teacher Preparation</b>		<b>Opportunities to Learn</b>	
	<b>1<sup>st</sup> Year Teachers</b>	<b>2<sup>nd</sup> Year Teachers</b>	<b>1<sup>st</sup> Year Teachers</b>	<b>2<sup>nd</sup> Year Teachers</b>
<i><b>Completer-Level Measures: Teacher Value-Added</b></i>				
Summary Response	0.029 (0.020)	0.012 (0.020)	0.036 (0.024)	0.010 (0.023)
Instruction	0.015 (0.019)	-0.011 (0.020)	0.026 (0.024)	0.003 (0.023)
Supportive Learning Environment	<b>0.050*</b> (0.019)	<b>0.049*</b> (0.020)	<b>0.080**</b> (0.023)	<b>0.065**</b> (0.023)
Teaching Diverse Learners	-0.008 (0.019)	-0.014 (0.018)	-0.019 (0.023)	-0.030 (0.022)
Observation Count	3,147	3,361	2,239	2,484
<i><b>Completer-Level Measures: Teacher Evaluation Ratings</b></i>				
Summary Response	<b>0.064**</b> (0.013)	<b>0.056**</b> (0.014)	<b>0.060**</b> (0.016)	<b>0.051**</b> (0.015)
Instruction	<b>0.021<sup>+</sup></b> (0.013)	0.022 (0.014)	0.018 (0.015)	0.016 (0.015)
Supportive Learning Environment	<b>0.065**</b> (0.013)	<b>0.067**</b> (0.014)	<b>0.042**</b> (0.015)	<b>0.071**</b> (0.016)
Teaching Diverse Learners	<b>0.031*</b> (0.012)	0.011 (0.014)	<b>0.049**</b> (0.015)	0.019 (0.016)
Observation Count	3,235	3,159	2,320	2,316
<i><b>Completer-Level Measures: Teacher Retention</b></i>				
Summary Response	<b>0.009*</b> (0.005)	<b>0.016*</b> (0.006)	<b>0.010*</b> (0.005)	0.008 (0.007)
Instruction	0.006 (0.005)	0.010 (0.006)	0.006 (0.005)	0.002 (0.007)
Supportive Learning Environment	0.005 (0.005)	0.006 (0.007)	<b>0.011<sup>+</sup></b> (0.005)	<b>0.015*</b> (0.008)
Teaching Diverse Learners	0.006 (0.005)	<b>0.012<sup>+</sup></b> (0.006)	0.002 (0.005)	-0.001 (0.007)
Observation Count	3,453	3,453	2,509	2,509

Note: This table displays results from models assessing whether perceptions of TPPs predict the EVAAS estimates, NCEES evaluation ratings, and retention of first-year teachers and second-year teachers. Models exclude classroom and school covariates. Standard errors clustered at the teacher-level are in parentheses. +, \*, and \*\* indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

**Appendix Table 5: Do Completer Perceptions of TPPs Predict Teacher Outcomes? University Fixed Effect Models**

	Quality of Teacher Preparation		Opportunities to Learn	
	1 <sup>st</sup> Year Teachers	2 <sup>nd</sup> Year Teachers	1 <sup>st</sup> Year Teachers	2 <sup>nd</sup> Year Teachers
<i>Completer-Level Measures: Teacher Value-Added</i>				
Summary Response	0.018 (0.020)	0.012 (0.020)	0.024 (0.025)	0.003 (0.024)
Instruction	0.009 (0.019)	-0.010 (0.020)	0.018 (0.025)	-0.007 (0.024)
Supportive Learning Environment	<b>0.036<sup>+</sup></b> (0.019)	<b>0.047<sup>*</sup></b> (0.021)	<b>0.069<sup>**</sup></b> (0.024)	<b>0.063<sup>**</sup></b> (0.024)
Teaching Diverse Learners	-0.008 (0.019)	-0.013 (0.019)	-0.024 (0.025)	-0.031 (0.023)
Observation Count	3,147	3,361	2,239	2,484
<i>Completer-Level Measures: Teacher Evaluation Ratings</i>				
Summary Response	<b>0.058<sup>**</sup></b> (0.013)	<b>0.052<sup>**</sup></b> (0.014)	<b>0.049<sup>**</sup></b> (0.016)	<b>0.042<sup>**</sup></b> (0.016)
Instruction	<b>0.022<sup>+</sup></b> (0.013)	<b>0.026<sup>+</sup></b> (0.014)	0.015 (0.015)	0.015 (0.016)
Supportive Learning Environment	<b>0.057<sup>**</sup></b> (0.013)	<b>0.061<sup>**</sup></b> (0.014)	<b>0.042<sup>**</sup></b> (0.015)	<b>0.067<sup>**</sup></b> (0.017)
Teaching Diverse Learners	<b>0.025<sup>*</sup></b> (0.012)	0.006 (0.014)	<b>0.035<sup>*</sup></b> (0.015)	0.008 (0.017)
Observation Count	3,235	3,159	2,320	2,316
<i>Completer-Level Measures: Teacher Retention</i>				
Summary Response	<b>0.011<sup>*</sup></b> (0.005)	<b>0.016<sup>*</sup></b> (0.007)	<b>0.010<sup>+</sup></b> (0.005)	0.009 (0.007)
Instruction	0.007 (0.005)	0.010 (0.007)	0.005 (0.005)	0.000 (0.007)
Supportive Learning Environment	0.005 (0.005)	0.006 (0.007)	<b>0.011<sup>*</sup></b> (0.006)	<b>0.019<sup>*</sup></b> (0.008)
Teaching Diverse Learners	0.007 (0.005)	<b>0.012<sup>+</sup></b> (0.006)	0.003 (0.005)	0.000 (0.007)
Observation Count	3,453	3,453	2,509	2,509

Note: This table displays results from models assessing whether perceptions of TPPs predict the EVAAS estimates, NCEES evaluation ratings, and retention of first-year teachers and second-year teachers. All models include a university fixed effect. Standard errors clustered at the teacher-level are in parentheses. +, \*, and \*\* indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

**Appendix Table 6: Perceptions of Teacher Preparation Quality and Teacher Outcomes**

<b>NTPS Items—Teacher Preparation Quality</b>	<b>Value-Added</b>	<b>Evaluation Ratings</b>	<b>Retention</b>
Collaborate with colleagues to improve student learning	0.004 (0.023)	<b>0.041**</b> (0.015)	0.006 (0.005)
Set challenging and appropriate goals for student learning and performance	<b>0.048*</b> (0.023)	<b>0.080**</b> (0.015)	0.006 (0.006)
Empower students to become self-directed and productive learners	<b>0.063**</b> (0.022)	<b>0.074**</b> (0.014)	0.001 (0.006)
Maintain discipline and an orderly, purposeful learning environment	<b>0.063**</b> (0.019)	<b>0.061**</b> (0.013)	<b>0.011*</b> (0.005)
Work with parents and families to better understand students and to support their learning	0.000 (0.019)	<b>0.041**</b> (0.012)	<b>0.010*</b> (0.004)
Develop positive and supportive relationships with students	0.031 (0.024)	<b>0.072**</b> (0.016)	0.005 (0.006)
Create an environment of high expectations for all students	0.026 (0.026)	<b>0.065**</b> (0.016)	0.010 (0.006)
Teach in ways that support English language learners	-0.005 (0.018)	<b>0.028*</b> (0.012)	0.003 (0.004)
Teach in ways that support students with diverse ethnic, racial, cultural, and socioeconomic backgrounds	0.019 (0.021)	<b>0.053**</b> (0.013)	0.007 (0.005)
Teach in ways that support special education students	-0.001 (0.019)	<b>0.034**</b> (0.012)	<b>0.009+</b> (0.005)
Teach in ways that support academically gifted students	0.013 (0.019)	<b>0.050**</b> (0.012)	<b>0.009+</b> (0.005)
Develop a classroom environment that promotes respect and group responsibility	<b>0.041+</b> (0.023)	<b>0.062**</b> (0.016)	<b>0.020**</b> (0.006)
Teach the concepts, knowledge, and skills of your discipline	0.022 (0.025)	<b>0.050**</b> (0.017)	0.006 (0.006)
Align instruction with state standards	0.025 (0.024)	<b>0.035*</b> (0.015)	0.009 (0.006)
Relate classroom teaching to the real world	0.013 (0.022)	<b>0.054**</b> (0.015)	0.005 (0.006)
Use knowledge of student learning and curriculum to plan instruction	0.035 (0.024)	<b>0.054**</b> (0.016)	<b>0.014*</b> (0.006)
Develop a variety of assessments	0.029 (0.021)	<b>0.057**</b> (0.014)	<b>0.011*</b> (0.005)
Provide purposeful feedback to students to guide their learning	0.030 (0.021)	<b>0.048**</b> (0.014)	<b>0.010+</b> (0.005)
Differentiate instruction	0.021 (0.022)	<b>0.043**</b> (0.014)	0.006 (0.005)
Use technology in the classroom to improve learning outcomes	0.010 (0.021)	0.012 (0.014)	<b>0.009+</b> (0.005)
Help students think critically to solve problems	0.030 (0.022)	<b>0.052**</b> (0.014)	<b>0.010+</b> (0.006)
Develop students' questioning and discussion skills	0.017 (0.023)	<b>0.051**</b> (0.014)	0.006 (0.005)
Analyze student performance data	0.027 (0.021)	<b>0.045**</b> (0.014)	0.008 (0.005)
Adapt practice based on research and student performance data	0.015 (0.020)	<b>0.053**</b> (0.014)	<b>0.010*</b> (0.005)

Note: This table displays results from models assessing whether perceptions of TPP quality predict the EVAAS estimates, NCEES evaluation ratings, and retention of first-year teachers. Each survey item is entered into a separate regression model. Standard errors clustered at the teacher-level are in parentheses. +, \*, and \*\* indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

**Appendix Table 7: Opportunities to Learn and Teacher Outcomes**

<b>NTPS Items—Opportunities to Learn</b>	<b>Value-Added</b>	<b>Evaluation Ratings</b>	<b>Retention</b>
Study stages of child development and learning	-0.032 (0.026)	0.017 (0.016)	-0.000 (0.006)
Develop strategies for managing student behavior	<b>0.079**</b> (0.026)	<b>0.063**</b> (0.017)	<b>0.018**</b> (0.006)
Develop strategies for establishing classroom procedures	<b>0.086**</b> (0.025)	<b>0.057**</b> (0.016)	<b>0.012*</b> (0.006)
Develop strategies for teaching English language learners	0.004 (0.023)	<b>0.031*</b> (0.015)	0.008 (0.005)
Develop strategies for teaching students from diverse racial, ethnic, cultural, and socioeconomic backgrounds	<b>0.061*</b> (0.025)	<b>0.048**</b> (0.016)	-0.001 (0.005)
Develop strategies for teaching students with special needs	-0.004 (0.024)	<b>0.041**</b> (0.015)	<b>0.010*</b> (0.005)
Develop strategies for teaching students who are academically gifted	-0.023 (0.024)	<b>0.037*</b> (0.015)	0.005 (0.005)
Develop strategies for teaching students of varying ability	0.015 (0.027)	<b>0.046**</b> (0.016)	0.004 (0.005)
Apply state or national standards to instruction	<b>0.051+</b> (0.026)	0.012 (0.016)	0.002 (0.005)
Plan units and lessons	0.030 (0.027)	0.008 (0.018)	0.007 (0.006)
Create formative and summative student assessments	0.031 (0.025)	<b>0.044**</b> (0.016)	<b>0.009+</b> (0.005)
Analyze student assessment data/work to adjust instruction	0.012 (0.024)	<b>0.047**</b> (0.015)	<b>0.011*</b> (0.005)
Provide meaningful and specific academic feedback to students	0.024 (0.025)	<b>0.047**</b> (0.015)	0.007 (0.005)
Develop instructional strategies to promote students' critical thinking skills	0.021 (0.024)	<b>0.037*</b> (0.017)	<b>0.013*</b> (0.005)

Note: This table displays results from models assessing whether perceptions of opportunities to learn in TPPs predict the EVAAS estimates, NCEES evaluation ratings, and retention of first-year teachers. Each survey item is entered into a separate regression model. Standard errors clustered at the teacher-level are in parentheses. +, \*, and \*\* indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

**Appendix Table 8: Results by Response Rate**

	Quality of Teacher Preparation		Opportunities to Learn	
	<i>Response Rates ≥ 45%</i>	<i>Response Rates &lt; 45 %</i>	<i>Response Rates ≥ 45%</i>	<i>Response Rates &lt; 45 %</i>
<b><i>Teacher Value-Added (1<sup>st</sup> Year Teachers)</i></b>				
Summary Response	0.037 (0.027)	0.022 (0.029)	0.023 (0.032)	0.047 (0.036)
Instruction	0.027 (0.025)	0.004 (0.030)	0.032 (0.033)	0.037 (0.038)
Supportive Learning Environments	<b>0.047<sup>+</sup></b> (0.026)	<b>0.054<sup>+</sup></b> (0.028)	<b>0.091<sup>**</sup></b> (0.030)	0.052 (0.038)
Teaching Diverse Learners	-0.007 (0.025)	-0.009 (0.031)	-0.043 (0.029)	0.002 (0.039)
Observation Count	1,786	1,361	1,276	963
<b><i>Teacher Evaluation Ratings (1<sup>st</sup> Year Teachers)</i></b>				
Summary Response	<b>0.027<sup>+</sup></b> (0.016)	<b>0.098<sup>**</sup></b> (0.019)	0.026 (0.022)	<b>0.090<sup>**</sup></b> (0.021)
Instruction	0.006 (0.016)	<b>0.032<sup>+</sup></b> (0.019)	-0.019 (0.020)	<b>0.058<sup>*</sup></b> (0.023)
Supportive Learning Environments	<b>0.031<sup>+</sup></b> (0.016)	<b>0.094<sup>**</sup></b> (0.019)	0.022 (0.019)	<b>0.068<sup>**</sup></b> (0.022)
Teaching Diverse Learners	0.013 (0.016)	<b>0.049<sup>**</sup></b> (0.019)	<b>0.043<sup>*</sup></b> (0.020)	<b>0.039<sup>+</sup></b> (0.022)
Observation Count	1,825	1,410	1,304	1,016
<b><i>Teacher Retention (Return for a 2<sup>nd</sup> Year)</i></b>				
Summary Response	0.007 (0.007)	0.011 (0.007)	0.010 (0.007)	0.012 (0.008)
Instruction	0.006 (0.006)	0.003 (0.007)	0.007 (0.006)	0.003 (0.008)
Supportive Learning Environments	0.007 (0.007)	0.003 (0.008)	0.003 (0.006)	0.005 (0.010)
Teaching Diverse Learners	-0.000 (0.006)	<b>0.015<sup>+</sup></b> (0.008)	0.007 (0.007)	<b>0.015<sup>+</sup></b> (0.009)
Observation Count	1,943	1,510	1,404	1,105

Note: This table displays results from models assessing whether perceptions of TPPs predict the EVAAS estimates, NCEES evaluation ratings, and retention of first-year teachers. Separate models are run for completers of preparation programs with response rates less than 45 percent and greater than/equal to 45 percent. These analyses focus on completer-level survey measures. Standard errors clustered at the teacher-level are in parentheses. +, \*, and \*\* indicate statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.