



The characteristics and experiences of beginning teachers in seven Northeast and Islands Region states and nationally





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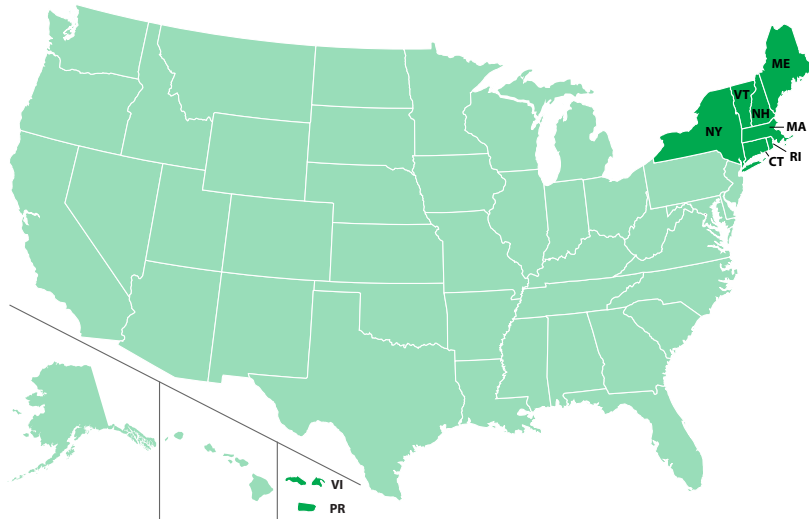
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March 2012

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The characteristics and experiences of beginning teachers in seven Northeast and Islands Region states and nationally

This study describes the characteristics and experiences of beginning public school teachers in the Northeast and Islands Region states and compares them with the characteristics and experiences of beginning teachers nationally using data from the 2007/08 Schools and Staffing Survey.

This study uses data from the 2007/08 Schools and Staffing Survey to describe the characteristics and experiences of beginning teachers in the Regional Educational Laboratory Northeast and Islands Region states (Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont)¹ and nationally. Beginning teachers are defined as teachers who reported that they started teaching during or after the 2003/04 school year and therefore had fewer than five years of teaching experience. The report focuses on variables related to teachers' preparation and workplace supports that research suggests might be associated with their perceptions of preparedness, effectiveness, and retention.

This study provides data to help states in the region tailor initiatives to the needs of beginning teachers. It responds to a request expressed by stakeholders in four of the region's states and the New England Collaborative for Educator Effectiveness (formed by six New England states

to address common issues related to educator evaluation) to better understand the characteristics and preparation of beginning teachers in the region and to have information on how beginning teachers are supported. This study also contributes to the literature on teacher preparation, working conditions, and support by providing an overview of the characteristics and experiences of beginning teachers in the Northeast Region and nationally.

The following are key findings of the study:

On demographic characteristics:

- In 2007/08, there were an estimated 90,370 beginning teachers in the Northeast Region states, ranging from 1,476 in Vermont to 52,409 in New York, and 832,264 nationally.
- The majority of beginning teachers regionally and nationally were female and White: regionally, 73.7 percent were female and 91.0 percent were White; nationally, 75.7 percent were female and 89.4 percent were White.

On preparation and certification characteristics:

- Almost all beginning teachers had a bachelor's degree (99.2 percent regionally and

98.9 percent and nationally). Most beginning teachers had a degree from a department, school, or college of education (59.1 percent regionally and 64.7 percent nationally).

- Regionally, about a fifth (22.5 percent) of beginning teachers had an undergraduate major in elementary or secondary education, the most common single field or area, compared with 31.2 percent nationally.
- Regionally, a majority of beginning teachers had a master's degree (58.2 percent), with most (88.6 percent) of these awarded by a department, school, or college of education. Nationally, 28.9 percent of beginning teachers had a master's degree, with 85.4 percent of these from a department, school, or college of education.
- Almost all beginning teachers regionally had taken courses focused on teaching methods or strategies (94.3 percent), compared with 87.3 percent nationally.
- The most common length of teaching practice was 12 weeks or more: 63.1 percent regionally and 61.2 percent nationally.
- Most beginning teachers had a regular type of teaching certificate as opposed to an alternate or emergency certification (63.1 percent regionally and 69.9 percent nationally).
- About a quarter of beginning teachers entered teaching through an alternative certification program (23.0 percent regionally and 25.6 percent nationally).
- Elementary or secondary education was the most common area of primary certification (34.0 percent regionally and 43.6 percent nationally), and early childhood to grade 5 was the most common grade range covered by the primary certification (25.4 percent regionally and 28.5 percent nationally).
- Most beginning teachers were considered "highly qualified" in their state (82.7 percent regionally and 82.3 percent nationally).

On induction and supports:

- Most beginning public school teachers reported having participated in an induction program of some sort (72.8 percent regionally and 73.5 percent nationally).
- Regionally, the most common support received during the first year of teaching was ongoing guidance and feedback from a mentor or master teacher (82.5 percent), and the least common was reduced teaching schedule or number of preparations (13.6 percent). Nationally, the most common support received was regular communication with the principal or another administrator (80.0 percent), and the least common was reduced teaching schedule or reduced number of preparations (11.9 percent).
- A majority of beginning teachers reported feeling well or very well prepared in the first year of teaching to handle a range of classroom management or discipline situations (54.7 percent regionally and 59.3 percent nationally), to use a variety

of instructional methods (73.2 percent regionally and 71.3 percent nationally), to teach their subject matter (88.1 percent regionally and 82.8 percent nationally), to use computers in classroom instruction (62.7 percent regionally and 67.0 percent nationally), to assess students (69.4 percent regionally and 70.0 percent nationally), and to select and adapt curriculum and instructional materials (72.0 percent regionally and 65.2 percent nationally).

On characteristics of students and classes taught:

- For beginning teachers who teach the same group of students for most of the day, the average class size was 19.0 regionally and 20.9 nationally. For those who teach several classes of different students in one day, the average number of separate classes taught was 5.7 regionally and 5.6 nationally.
- Beginning teachers in the region reported that 19.5 percent of their students had an individualized education program (because they have disabilities or are special education students), compared with 15.7 percent nationally. Both regionally

and nationally, teachers report that 9.5 percent of their students were limited English proficient.

On adequate yearly progress status of beginning teachers' schools:

- The majority of beginning teachers worked in schools that were reported by their principal as having made adequate yearly progress in 2006/07 (77.1 percent regionally and 72.3 percent nationally).
- Of beginning teachers in schools that did not make adequate yearly progress in 2006/07, 79.9 percent in the region and 49.8 percent nationally were teaching in schools identified for improvement (schools that had not made adequate improvement in the same content area for two or more consecutive years).

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Note

1. The Schools and Staffing Survey is not conducted in Puerto Rico and the Virgin Islands, the two other jurisdictions in the Regional Educational Laboratory Northeast and Islands Region.

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This study describes the characteristics and experiences of beginning public school teachers in the Northeast and Islands Region states and compares them with the characteristics and experiences of beginning teachers nationally using data from the 2007/08 Schools and Staffing Survey.

WHY THIS STUDY?

This study provides a descriptive look at the basic demographic, preparation, and certification characteristics of beginning teachers in the Northeast and Islands Region states (Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont¹), as well as regionally and nationally, using data from the 2007/08 Schools and Staffing Survey (SASS). It also looks at their professional support and sense of preparedness for teaching and at characteristics of their classrooms and schools. Beginning teachers are defined as teachers

who reported having five or fewer years of teaching experience at the time of the survey (meaning that they started teaching during or after the 2003/04 school year). The report focuses on variables related to teachers' preparation and workplace supports that research suggests are associated with their perceptions of preparedness, effectiveness, and retention.

This is the first analysis of SASS data to look specifically at beginning teachers' characteristics and experiences in the Northeast Region. However, the National Center for Education Statistics (NCES) has produced national studies of the characteristics, education, and certification backgrounds of secondary teachers (Coopersmith 2009; Morton et al. 2008). More recently, a Regional Educational Laboratory Northwest study looked at the preparation and support of new teachers in the Northwest Region and nationally using 2003/04 SASS data (Burke 2010).

Studies have yielded mixed findings on support to beginning teachers; their education, preparation, and certification; their participation in supports and sense of preparedness for teaching; and characteristics of their classrooms and schools (see appendix A for a review of related literature). Despite the mixed findings, the study team was able to identify several factors that the literature finds to be associated with teachers' sense of preparedness for teaching, their demonstrated effectiveness as measured by student achievement, and their plans to remain in the profession.

This study will inform regional stakeholders, including state and local education agency officials and the New England Collaborative for Educator Effectiveness (NECEE) by providing descriptive data on the demographic characteristics and preparation of beginning teachers, the schools where they work, and the induction and support opportunities available to them. This study contributes to the literature on teacher preparation, working conditions, and support by providing an overview of the characteristics and experiences of beginning teachers in the Northeast Region states and nationally.

This study responds to a request from regional stakeholders, including state and local education agency

staff and representatives of the NECEE, who are interested in knowing more about the characteristics of the beginning teacher workforce in their states. In considering how best to support the development of beginning teachers, how to evaluate their effectiveness, and how to retain effective teachers, state education agencies in the Northeast Region require accurate data. They would like to better understand how teachers in their states are prepared and to learn more about their early teaching experiences. They also want to know whether beginning teachers are more likely to work in schools that make or fail to make adequate yearly progress.

Several research questions guided this study:

- What are the demographic characteristics of beginning public school teachers in the Northeast Region states and nationally?
- What are the preparation and certification characteristics reported by beginning public

school teachers in the Northeast Region states and nationally?

- What induction and supports do beginning public school teachers report receiving in the Northeast Region states and nationally?
- What are the characteristics of the students and classes taught by beginning public school teachers in the Northeast Region states and nationally?
- What percentage of beginning public school teachers in the Northeast Region states and nationally work in schools that made and did not make adequate yearly progress?

To answer these questions, this study used data from the 2007/08 SASS, a set of surveys that can be linked by school, to identify a set of variables for examination (table 1; see box 1 and appendix B for details).

TABLE 1

Explanations of variables used in the study

Research question	Variable	Comments
What are the demographic characteristics of beginning public school teachers in the Northeast Region states and nationally?	• Sex	Whether female.
	• Ethnicity	Whether of Hispanic origin.
	• Race	Only the percentage of teachers who were White is reported, because the estimates of the percentages of teachers in all other racial/ethnic groups for the states in the region did not meet National Center for Education Statistics standard for reporting.
	• Age	At time of survey completion.
What are the preparation and certification characteristics reported by beginning public school teachers in the Northeast Region states and nationally?	• Degrees held, source of degree, and area of study	To eliminate categories for which there were no reportable estimates, undergraduate field of study was collapsed from 15 categories to 7: elementary or secondary education, English and language arts, special education, mathematics and computer science, natural sciences, social sciences, and other. "Other" includes arts and music, English as a second language, foreign languages, health education, vocational, career or technical education, and miscellaneous.
	• Teachers' reported preparation in education	Whether teacher had taken any graduate or undergraduate courses focused on teaching methods or strategies. Length of teaching practice.
	• Certification route, advanced certification, and current state certification	Categories of primary certification areas were the same as those for undergraduate major noted above.
	• Highly qualified teacher status	According to the survey, "Generally, to be Highly Qualified, teachers must meet requirements related to 1) a bachelor's degree, 2) full state certification, and 3) demonstrated competency in the subject area(s) taught." The highly qualified teacher requirement is a provision under No Child Left Behind Act of 2001.

(CONTINUED)

TABLE 1 (CONTINUED)

Explanations of variables used in the study

Research question	Variable	Comments
What induction and supports do beginning public school teachers report receiving in the Northeast Region states and nationally?	<ul style="list-style-type: none"> Whether teacher participated in an induction program during first year of teaching 	The survey did not define "induction program."
	<ul style="list-style-type: none"> Types of supports teacher received during first year of teaching 	<p>Whether teacher had any of the following supports in first year of teaching:</p> <ul style="list-style-type: none"> Reduced teaching schedule or number of preparations. Common planning time with teachers in subject. Seminars or classes for beginning teachers. Extra classroom assistance. Regular supportive communication with principal, other administrators, or department chair. Ongoing guidance or feedback from master or mentor teacher.
What are the characteristics of the students and classes taught by beginning public school teachers in the Northeast Region states and nationally?	<ul style="list-style-type: none"> How prepared teacher felt in various areas in first year of teaching 	<p>First year teaching sense of preparation for:</p> <ul style="list-style-type: none"> Handling range of classroom management or discipline situations. Using variety of instructional methods. Teaching subject matter. Using computers in instruction. Assessing students. Selecting and adapting curriculum and instructional materials.
	<ul style="list-style-type: none"> Number of students taught 	Refers to teachers who taught the same group of students all or most of the day in multiple subjects or who worked with one or more teachers in the same class at the same time and who were jointly responsible for teaching the same group of students all or most of the day.
What are the characteristics of the students and classes taught by beginning public school teachers in the Northeast Region states and nationally?	<ul style="list-style-type: none"> Average number of students taught at any one time 	Refers to teachers who taught a small number of students in specific skills or addressed specific student needs inside or outside their regular classrooms, such as "pull-out" classes or "push-in" instruction.
	<ul style="list-style-type: none"> Number of separate class periods taught 	Refers to teachers who instructed several classes of different students most or all day in one or more subjects or elementary school teachers who taught only one subject to different classes of students
	<ul style="list-style-type: none"> Percentage of a teacher's students with an individualized education program 	Of all the students teachers teach at this school, the percentage with an individualized education program because they have disabilities or are special education students.
	<ul style="list-style-type: none"> Percentage of a teacher's students who are limited English proficient 	The survey defined limited English proficient students as "those whose native or dominant language is other than English and who have sufficient difficulty speaking, reading, writing, or understanding the English language as to deny them the opportunity to learn successfully in an English-speaking-only classroom."
What percentage of beginning public school teachers in the Northeast Region states and nationally work in schools that made and did not make adequate yearly progress?	<ul style="list-style-type: none"> Whether a teacher's school made adequate yearly progress in 2006/07 	This variable was from the SASS Principal Survey.
	<ul style="list-style-type: none"> Whether a teacher's school was identified for school improvement in 2006/07, for failing to make adequate yearly progress 	This variable was from the SASS Principal Survey, which explains, "a school is identified for improvement if it does not make adequate yearly progress for two consecutive years or more in the same content area."

Source: Authors' compilation from the 2007/08 Schools and Staffing Survey.

BOX 1

Data and methodology

Most of the study variables are from the Teacher Survey of the Schools and Staffing Survey (SASS); two are from the linked Principal Survey (appendix B provides greater detail for all variables, and appendix C provides a fuller discussion of the sampling procedures, weights, and imputation.)

The subsample of “beginning teachers” is defined as teachers who started teaching during or after the 2003/04 school year, meaning they had been teaching for no more than five years at the time the data were collected.¹ Teachers in this group

were asked a series questions about supports that they had received or participated in during their first year of teaching.

This study provides a descriptive statistical analysis of the characteristics and experiences of beginning teachers in the Northeast Region states and compares the state data with regional and national findings. Tests of difference are conducted between each state and the national estimates.

Regional estimates are provided for descriptive purposes only, and no tests of statistical differences were conducted to see whether estimates for the region differed significantly

from national estimates. The national estimates are not presented as a standard or norm but rather as descriptive data to provide context for the state findings. Following National Center for Education Statistics guidelines, estimates are not reported if the standard error is greater than 50 percent of the estimate (such estimates are not considered reliable); estimates with standard errors of 30–50 percent of the estimate are presented but should be interpreted with caution.

Note

1. The SASS Teacher Survey provides two ways to identify beginning teachers. One uses the five-year criterion and the other uses a three-year criterion. Appendix D compares estimates for the two criteria.

To provide context for the findings, the weighted estimate of the number and percentage of beginning teachers in each Northeast Region state, in the region, and nationally are provided in table 2. The number of teachers in later analyses is the same as reported here. Table 3 gives the percentage of teachers who began teaching, by year.

STUDY FINDINGS

This section reports on the demographic characteristics of beginning teachers, their academic preparation and certification, their access to supports as new teachers, and their sense of preparedness to teach. It also reports on characteristics of the schools and classes in which they teach.

TABLE 2
Number and percentage of beginning teachers, by Northeast Region state and nationally, 2007/08

Area	Total weighted number of beginning teachers		Percentage of all teachers who were beginning teachers	
Connecticut	10,302	(1,069.9)	20.6	(1.8)
Maine	3,158	(498.0)	17.7	(2.7)
Massachusetts	17,700	(2,453.4)	22.0	(2.7)
New Hampshire	3,276	(402.1)	18.8	(2.2)
New York	52,409	(6,098.2)	23.0	(2.1)
Rhode Island	2,050	(376.9)	15.5	(2.6)
Vermont	1,476	(228.3)	14.4	(2.0)
Region	90,370	(6,286.7)	21.7	(1.2)
Nation	832,264	(28,050.3)	24.4	(0.7)

Note: Numbers in parentheses are standard errors

Source: Authors’ analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 3

Percentage of beginning teachers, by first year of teaching and by Northeast Region state and nationally, 2003–07

Area	2003		2004		2005		2006		2007	
Connecticut	18.4	(3.8)	21.2	(4.3)	21.2	(5.0)	22.4	(4.4)	16.7	(3.5)
Maine	19.2!	(7.0)	11.9!	(3.9)	22.5	(5.4)	36.6	(4.8)	19.7	(5.1)
Massachusetts	13.9!	(4.2)	25.3	(5.5)	28.3	(5.6)	18.3	(3.5)	14.2	(3.7)
New Hampshire	17.1!	(6.0)	18.7	(4.6)	16.9	(4.6)	24.9	(4.7)	22.3	(5.1)
New York	20.6	(4.4)	19.8	(4.3)	19.4	(5.3)	26.7	(5.7)	13.5!	(4.7)
Rhode Island	35.7	(8.2)	21.3!	(9.6)	16.5!	(6.8)	‡	‡	‡	‡
Vermont	14.2!	(5.9)	18.1!	(6.7)	17.4!	(6.4)	25.4!	(6.9)	24.8!	(8.4)
Region	19.1	(2.7)	20.7	(2.9)	21.3	(3.4)	24.1	(3.6)	14.7	(2.7)
Nation	18.1	(0.9)	20.1	(0.8)	20.2	(0.8)	21.8	(1.0)	19.8	(0.9)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

Demographic characteristics of beginning public school teachers

Gender. The majority of beginning teachers were female in the Northeast Region (75.7 percent) and nationally (73.7 percent; table 4). There are no statistically significant differences between any of the state estimates and the nation as a whole.

Race/ethnicity. Nearly 7 percent of beginning teachers in the Northeast Region were of Hispanic origin, compared with just under 10 percent nationally. Beginning teachers in the Northeast Region and nationally were overwhelmingly White, with Connecticut, Maine, Massachusetts and New Hampshire having a statistically significant higher percentage of White beginning teachers than the country as a whole.

TABLE 4

Percentage of beginning teachers with selected demographic characteristics, by Northeast Region state and nationally, 2007/08

Area	Gender Female	Ethnicity Hispanic origin	Race White	Age Average age
Connecticut	72.9 (4.5)	‡	97.0* (1.5)	32.1 (0.9)
Maine	69.5 (5.7)	‡	97.8* (2.0)	31.3 (0.9)
Massachusetts	75.4 (4.2)	‡	96.9* (2.0)	32.0 (1.5)
New Hampshire	78.4 (6.1)	‡	97.8* (1.3)	33.0 (1.3)
New York	72.9 (5.1)	9.5! (2.9)	86.5 (5.8)	31.5 (1.0)
Rhode Island	80.4 (8.7)	‡	98.6 (2.5)	34.1 (3.1)
Vermont	77.0 (7.2)	‡	99.1 (1.5)	31.6 (1.3)
Region	73.7 (3.3)	6.7 (1.7)	91.0 (3.5)	31.8 (0.7)
Nation	75.7 (0.7)	9.8 (0.9)	89.4 (0.8)	31.5 (0.2)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

Age. The average age at the time of the survey was 31.5 years nationally and 31.8 years regionally. There are no statistically significant differences between any of the Northeast Region states and the national estimate in average age at the time of the survey.

Preparation and certification characteristics reported by beginning public school teachers

Bachelor's degree. Almost all beginning teachers in the Northeast Region and nationally held a bachelor's degree (table 5). Massachusetts had a statistically lower percentage of beginning teachers with a bachelor's degree (96.5 percent) than beginning teachers nationally (98.9 percent). A majority of teachers nationally reported being awarded their bachelor's degree by a department, school, or college of education. There is no clear pattern in the Northeast Region states, with Rhode Island having a statistically higher percentage (84.1 percent) of beginning teachers with a bachelor's degree awarded by a department, school, or college of education than beginning teachers nationally (64.7 percent) and Massachusetts (44.5 percent) and New Hampshire (48.9 percent) having a significantly lower percentage.

Undergraduate major. The most commonly reported major field of study of beginning teachers in the Northeast Region (22.5 percent) and nationally (31.2 percent) was elementary or secondary education (table 6). The percentage of beginning teachers who reported an undergraduate major field of study in elementary or secondary education is statistically lower in Massachusetts and New York than the national estimate.

Master's degree. Four states in the region (Connecticut, Massachusetts, New Hampshire, and New York) had statistically higher percentages of beginning public school teachers who reported having a master's degree (47.7 or higher) than the national estimate (28.9 percent; table 7).

A majority of beginning public school teachers with a master's degree regionally (88.6 percent) and nationally (85.4 percent) reported that their degree was awarded by a department, school, or college of education. Among the Northeast Region states, the estimates for Maine and New Hampshire are statistically lower than the national estimate.

Reading specialization. Regionally, 13.4 percent of beginning teachers reported a concentration or specialization in reading; nationally, 15.1 percent

TABLE 5

Percentage of beginning teachers with a bachelor's degree, by Northeast Region state and nationally, 2007/08

Area	Bachelor's degree		Bachelor's degree awarded by a department, school, or college of education	
Connecticut	99.6	(0.4)	58.8	(5.7)
Maine	98.1	(1.2)	54.3	(6.1)
Massachusetts	96.5*	(1.7)	44.5*	(6.0)
New Hampshire	100.0	(0.0)	48.9*	(6.6)
New York	100.0	(0.0)	63.9	(5.1)
Rhode Island	100.0	(0.0)	84.1*	(7.4)
Vermont	97.8	(2.6)	57.8	(8.9)
Region	99.2	(0.3)	59.1	(3.5)
Nation	98.9	(0.1)	64.7	(1.3)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 6

Percentage of beginning teachers whose undergraduate major is in selected field of study, by Northeast Region state and nationally, 2007/08

Area	Elementary or secondary education		Special education		English and language arts		Mathematics or computer science		Natural sciences		Social sciences		Other area ^a	
Connecticut	23.8	(4.5)	‡	‡	8.5	(2.2)	4.6!	(1.9)	8.4	(2.2)	19.8	(5.6)	33.3	(4.7)
Maine	29.1	(6.2)	‡	‡	7.5!	(2.5)	‡	‡	7.7!	(3.4)	15.2	(4.4)	33.4	(6.5)
Massachusetts	22.6*	(5.2)	‡	‡	12.7*	(3.3)	5.1*!	(2.2)	5.0*!	(2.1)	30.0*	(5.0)	24.4*	(4.4)
New Hampshire	23.7	(6.2)	‡	‡	14.7!	(4.7)	‡	‡	7.1!	(3.3)	14.4!	(5.5)	35.5	(5.4)
New York	21.2*	(5.0)	‡	‡	11.9*	(2.9)	10.9*	(2.8)	5.1*!	(2.1)	18.4*	(5.2)	29.4*	(4.4)
Rhode Island	34.0	(8.7)	‡	‡	‡	‡	0.0	0.0	‡	‡	16.3!	(6.9)	36.6	(9.9)
Vermont	26.8	(7.3)	‡	‡	19.4!	(5.9)	‡	‡	‡	‡	‡	‡	24.9	(6.0)
Region	22.5	(3.3)	‡	‡	11.5	(1.8)	8.1	(1.8)	5.7	(1.4)	20.4	(3.5)	29.4	(2.7)
Nation	31.2	(1.1)	4.0	(0.5)	9.7	(0.6)	4.6	(0.4)	5.5	(0.6)	15.3	(1.0)	29.8	(1.1)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

a. Includes arts and music, English as a second language, foreign languages, health education, vocational, career or technical education, and miscellaneous.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 7

Percentage of beginning teachers with a master's degree, by Northeast Region state and nationally, 2007/08

Area	Master's degree		Master's degree awarded by a department, school, or a college of education	
Connecticut	55.4*	(4.1)	89.9	(4.1)
Maine	26.4	(6.6)	67.3*	(12.6)
Massachusetts	48.4*	(6.3)	84.1	(5.5)
New Hampshire	47.7*	(6.6)	73.2*	(7.2)
New York	66.5*	(4.8)	91.3	(3.0)
Rhode Island	26.1!	(7.9)	73.6	(17.5)
Vermont	33.7!	(10.4)	65.7	(15.3)
Region	58.2	(3.4)	88.6	(2.4)
Nation	28.9	(1.0)	85.4	(1.3)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

did (table 8). The estimates for the Northeast Region states are not statistically different from the national estimate.

Courses on teaching methods. Most beginning teachers regionally (94.3 percent) and nationally

(87.3 percent) reported having taken graduate or undergraduate courses that focused on teaching methods or strategies (table 9). Among the Northeast Region states, the estimates for Massachusetts (94.1 percent) and New York (96.7 percent) are statistically higher than the national estimate.

TABLE 8

Percentage of beginning teachers whose undergraduate or graduate coursework resulted in a specialization in reading, by Northeast Region state and nationally, 2007/08

Area	Concentration or specialization in reading	
Connecticut	9.1!	(3.3)
Maine	11.2!	(3.9)
Massachusetts	10.5!	(4.1)
New Hampshire	14.3	(4.0)
New York	15.3	(4.2)
Rhode Island	‡	‡
Vermont	20.3!	(6.2)
Region	13.4	(2.5)
Nation	15.1	(0.9)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 9

Percentage of beginning teachers coursework focused on teaching methods or strategies, by Northeast Region state and nationally, 2007/08

Area	Coursework focused on teaching methods or strategies	
Connecticut	88.4	(3.6)
Maine	87.0	(3.7)
Massachusetts	94.1*	(2.1)
New Hampshire	87.2	(4.8)
New York	96.7*	(2.1)
Rhode Island	89.0	(5.5)
Vermont	89.5	(4.5)
Region	94.3	(1.3)
Nation	87.3	(0.8)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

Among teachers who reported taking courses focused on teaching methods or strategies, a majority of those regionally and nationally took at least three or four courses or more (table 10). Only New Hampshire's estimates for the number of courses on teaching methods or strategies taken by beginning teachers differ statistically from the national estimate.

Practice teaching. Regionally, 13.3 percent of beginning teachers reported doing no practice teaching. However, a majority, 63.1 percent, reported 12 or more weeks of practice teaching (table 11). Nationally, 18.6 percent of beginning teachers reported no practice teaching and 61.2 percent reported having 12 weeks or more of practice teaching. The estimates for Connecticut and New York differ statistically from the national estimates.

Type of certification. Most beginning teachers regionally (63.1 percent) and nationally (69.9 percent) reported holding a regular, standard, or advanced teaching certificate (table 12). Compared with the national estimate, however, a statistically lower percentage of beginning teachers in Maine (42.5 percent) and a statistically higher percentage in New Hampshire (80.7 percent) did.

Alternative certification. About a quarter (25.6 percent) of beginning teachers nationally reported that they entered teaching through an alternative certification program (table 13). This percentage ranges widely across the Northeast Region states; the estimates for Connecticut (12.5 percent) and Massachusetts (11.9 percent) are statistically lower than the national estimate.

Primary certification. The most frequently reported content area for primary certification reported by beginning public school teachers both regionally (34 percent) and nationally (43.6 percent) was elementary or secondary education (table 14). Among the Northeast Region states, only the estimates for New York are statistically different from the national estimates: statistically

TABLE 10

Percentage of beginning teachers who have taken courses on teaching methods or strategies, by number of courses taken and by Northeast Region state and nationally, 2007/08

Area	Number of courses on teaching methods or strategies taken							
	1 or 2		3 or 4		5–9		10 or more	
Connecticut	9.4!	(2.9)	32.0	(5.2)	32.2	(4.7)	26.4	(4.7)
Maine	23.2	(4.9)	20.5	(5.8)	40.2	(6.0)	16.1!	(5.6)
Massachusetts	17.8!	(5.3)	20.8	(5.5)	36.5	(6.4)	24.9	(5.8)
New Hampshire	23.1*	(5.8)	39.5*	(7.7)	24.1*	(5.5)	13.3*	(3.7)
New York	8.6!	(3.0)	27.4	(5.0)	39.9	(5.5)	24.1	(5.1)
Rhode Island	‡	‡	25.9!	(8.3)	46.9	(11.0)	20.6!	(7.0)
Vermont	19.2!	(5.7)	31.6	(8.6)	30.4	(7.7)	18.7!	(7.9)
Region	11.6	(2.0)	26.8	(3.5)	37.9	(3.5)	23.7	(3.3)
Nation	17.0	(0.9)	27.5	(1.1)	31.3	(1.1)	24.2	(1.0)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 11

Percentage of beginning teachers who reported time spent practice teaching, by number of weeks and by Northeast Region state and nationally, 2007/08

Area	None		4 weeks or less		5–7 weeks		8–11 weeks		12 weeks or more	
Connecticut	‡	‡	5.9*!	(2.1)	2.9*!	(1.3)	25.3*	(4.4)	63.7*	(4.5)
Maine	28.6	(6.2)	‡	‡	‡	‡	6.9!	(3.0)	64.2	(6.4)
Massachusetts	24.9	(5.6)	‡	‡	‡	‡	5.6!	(2.3)	65.8	(5.6)
New Hampshire	20.5	(4.5)	‡	‡	‡	‡	9.6!	(4.6)	64.4	(5.9)
New York	10.6*!	(3.3)	‡	‡	11.4*!	(3.8)	12.0*	(3.4)	61.2*	(4.5)
Rhode Island	‡	‡	‡	‡	‡	‡	18.4!	(7.9)	75.0	(10.3)
Vermont	12.9!	(5.3)	‡	‡	‡	‡	11.8!	(5.0)	71.7	(7.6)
Region	13.3	(2.0)	3.7!	(1.8)	7.8	(2.3)	12.1	(2.1)	63.1	(2.7)
Nation	18.6	(0.9)	2.7	(0.4)	4.3	(0.4)	13.2	(0.9)	61.2	(1.6)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

lower percentages of beginning teachers in New York held primary certification in elementary or secondary education and statistically higher percentages in English and language arts, math or computer science, and other areas.

Grade range of certification. The most commonly reported grade range of beginning teachers' primary certification was early childhood to grade 5, with 25.4 percent regionally and 28.5 percent nationally (table 15). Among Northeast

TABLE 12
Percentage of beginning teachers with a regular, standard, or advanced teaching certificate, by Northeast Region state and nationally, 2007/08

Area	Regular, standard or advanced certificate	
Connecticut	72.8	(3.8)
Maine	42.5*	(7.4)
Massachusetts	65.2	(6.8)
New Hampshire	80.7*	(4.3)
New York	59.3	(7.3)
Rhode Island	90.1	(7.3)
Vermont	72.2	(8.7)
Region	63.1	(4.4)
Nation	69.9	(1.0)

* Differs from the national estimate by a statistically significant margin ($p < .05$).
 Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 13
Percentage of beginning teachers with alternative certification, by Northeast Region state and nationally, 2007/08

Area	Alternative certification	
Connecticut	12.5*	(3.2)
Maine	26.5	(5.5)
Massachusetts	11.9*!	(3.9)
New Hampshire	32.7	(6.8)
New York	28.4	(4.8)
Rhode Island	‡	‡
Vermont	22.9	(6.6)
Region	23.0	(3.1)
Nation	25.6	(1.1)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 14
Percentage of beginning teachers with primary certification in selected content areas, by Northeast Region state and nationally, 2007/08

Area	Elementary or secondary education		Special education		English and language arts		Math or computer science		Natural sciences		Social sciences		Other area ^a	
Connecticut	42.4	(6.1)	7.5!	(2.5)	6.0	(1.7)	6.8!	(2.2)	8.1	(2.0)	7.6!	(3.4)	21.6	(4.1)
Maine	35.6	(7.1)	10.1!	(4.5)	6.1!	(2.0)	4.7!	(2.1)	7.3!	(3.2)	5.2!	(2.0)	31.0	(7.0)
Massachusetts	34.1	(6.8)	9.6!	(3.6)	9.6!	(4.2)	7.3!	(2.5)	6.0!	(2.2)	11.3	(2.7)	22.0	(4.1)
New Hampshire	38.8	(7.2)	10.6!	(3.7)	9.3!	(3.6)	‡	‡	‡	‡	‡	‡	24.0	(4.8)
New York	31.7*	(6.0)	14.1*!	(5.0)	9.8*	(2.7)	16.3*	(2.9)	‡	‡	4.6*!	(1.9)	20.0*	(4.6)
Rhode Island	39.2	(9.3)	‡	‡	‡	‡	‡	‡	‡	‡	‡	‡	30.4	(8.0)
Vermont	36.7	(8.3)	‡	‡	10.5!	(4.4)	‡	‡	‡	‡	‡	‡	23.6!	(7.2)
Region	34.0	(4.0)	11.9	(3.2)	9.1	(1.8)	12.3	(1.8)	4.8	(1.2)	6.4	(1.5)	21.4	(3.4)
Nation	43.6	(1.1)	10.3	(1.0)	9.1	(0.8)	6.8	(0.5)	4.7	(0.5)	6.5	(0.6)	18.9	(1.0)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors. The categories were collapsed to eliminate categories with no reportable estimates for any state or with standard errors of 30–50 percent of the estimate's value.

a. Includes arts and music, English as a second language, foreign languages, health education, vocational, career or technical education, and miscellaneous.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 15

Percentage of beginning teachers with a primary certification, by grade range and by Northeast Region state and nationally, 2007/08

Area	Does not restrict grade level		Early childhood to grade 5		Grades 6–8		Grades 9–12		Early childhood to grade 8		Grades 6–12	
Connecticut	25.0	(5.0)	34.5	(6.2)	‡	‡	15.6	(3.8)	7.6!	(3.3)	16.0	(3.5)
Maine	26.5*	(6.5)	‡	‡	‡	‡	14.7*	(3.3)	31.0*	(8.2)	20.5*	(4.5)
Massachusetts	13.8	(3.6)	22.4!	(6.6)	9.3!	(3.8)	22.4	(4.1)	15.3!	(6.0)	16.7	(3.0)
New Hampshire	24.6	(4.7)	15.6!	(5.1)	‡	‡	17.8	(4.0)	23.2	(5.7)	15.2!	(7.3)
New York	21.0	(4.8)	26.2	(6.5)	‡	‡	13.8	(3.3)	10.6!	(4.5)	27.4	(3.7)
Rhode Island	28.3	(8.0)	22.7	(6.6)	‡	‡	20.5!	(8.4)	12.5!	(5.9)	16.0!	(6.3)
Vermont	26.8	(8.0)	32.4	(7.8)	‡	‡	19.6!	(8.3)	‡	‡	‡	‡
Region	20.7	(3.5)	25.4	(3.9)	2.8!	(0.9)	16.0	(2.2)	12.2	(2.9)	22.9	(2.4)
Nation	20.1	(1.4)	28.5	(1.1)	5.4	(0.7)	13.2	(0.7)	14.4	(0.9)	18.3	(0.9)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

Region states, only Maine's estimates of the grade ranges of primary certification for beginning teachers are statistically significantly different than the national estimates: a higher percentage reported that their certification is one of the following: does not restrict grade level, grades 9–12, early childhood to grade 8, and grades 6–12.

Highly qualified status. The vast majority of beginning teachers regionally (82.7 percent) and nationally (82.3 percent) reported that they were “highly qualified” in their state (table 16). Of those not highly qualified overall in their state, 26.7 percent regionally and 27.2 percent nationally reported that they were highly qualified in at least one subject area. There are no statistically

TABLE 16

Percentage of beginning teachers who have “highly qualified teacher” status or are highly qualified in at least one subject area, by Northeast Region state and nationally, 2007/08

Area	Highly qualified		Highly qualified in at least one subject area	
Connecticut	84.3	(3.6)	31.2!	(12.2)
Maine	79.0	(4.2)	30.2!	(11.9)
Massachusetts	77.3	(4.6)	24.8!	(9.1)
New Hampshire	77.9	(6.0)	26.5!	(10.3)
New York	84.4	(3.9)	27.0!	(11.9)
Rhode Island	92.7	(5.1)	‡	‡
Vermont	80.1	(5.9)	‡	‡
Region	82.7	(2.5)	26.7	(6.6)
Nation	82.3	(0.9)	27.2	(2.2)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors. According to the No Child Left Behind Act of 2001, to be “highly qualified a teacher must have a bachelor's degree, have full state certification as defined by the state, and have demonstrated competency in the core subject matter taught, as defined by the state” (U.S. Department of Education 2004).

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

significant differences between any of the Northeast Region states and the national estimate.

Induction and supports for beginning public school teachers

This research question looked at beginning teachers' participation in an induction program, supports received, and sense of preparedness during their first year of teaching.

Participation in induction program. Almost three-quarters of beginning teachers regionally (72.8 percent) and nationally (73.5 percent) reported participating in an induction program in their first year (table 17). Estimates for six of the seven Northeast Region states are statistically the same as the national estimate. Compared with beginning teachers nationally, Vermont has a statistically smaller percentage of beginning teachers (58.6 percent) who reported having participated in an induction program during their first year of teaching.

TABLE 17

Percentage of beginning teachers who participated in induction programs during their first year of teaching, by Northeast Region state and nationally, 2003/04–2007/08

Area	Participated in an induction program	
Connecticut	79.2	(5.1)
Maine	69.7	(5.9)
Massachusetts	76.6	(4.8)
New Hampshire	73.2	(6.7)
New York	71.1	(5.5)
Rhode Island	64.5	(10.5)
Vermont	58.6*	(7.5)
Region	72.8	(3.1)
Nation	73.5	(0.9)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

Supports received. Regionally, the three most common supports beginning teachers reported receiving during their first year of teaching were ongoing guidance or feedback from a mentor or master teacher (82.5 percent), regular supportive communication with their principal or other administrators (81.6 percent), and seminars or classes for beginning teachers (66.5 percent; table 18). Nationally, the same supports were reported as the most common, but their ranking differed. Most common was regular supportive communication with their principal or other administrators (80.0 percent), followed by ongoing guidance or feedback from a mentor or master teacher (78.4 percent), and seminars or classes for beginning teachers (73.2 percent). The least commonly reported support, both regionally (13.6 percent) and nationally (11.9 percent), was having a reduced teaching schedule or number of preparations. There are several statistically significant differences between state estimates and national estimates for particular supports, but none for extra classroom assistance, regular supportive communication with principal or other administrators, or ongoing guidance or feedback from a mentor or master teacher.

Sense of preparedness. The task for which most teachers reported being well or very well prepared regionally (88.1 percent) and nationally (82.8 percent) was teaching in their assigned subject matter (table 19). Being well or very well prepared to use a variety of instructional methods was the second most highly rated task, at 73.2 percent of beginning teachers regionally and 71.3 percent nationally. The task with the lowest percentage of beginning teachers reporting being well or very well prepared was handling a range of classroom management or discipline situations, at 54.7 percent regionally and 59.3 percent nationally.

Several state estimates were statistically different from the national estimates. A statistically higher percentage of beginning teachers in Connecticut reported being well or very well prepared to use a

TABLE 18

Percentage of beginning teachers who received selected supports during their first year of teaching, by support type and by Northeast Region and nationally, 2003/04–2007/08

Area	Reduced teaching schedule or number of preparations		Common planning time with other teachers in same subject		Seminars or classes for beginning teachers		Extra classroom assistance		Regular supportive communication with principal or other administrators		Ongoing guidance or feedback from a mentor or master teacher	
Connecticut	11.7	(3.0)	50.7	(5.0)	72.0	(5.3)	30.9	(4.7)	83.3	(4.1)	84.0	(3.7)
Maine	5.4*!	(2.0)	30.0*	(5.5)	51.5*	(5.9)	33.1	(6.3)	81.0	(4.2)	86.8	(4.8)
Massachusetts	6.9!	(2.1)	45.5	(6.1)	54.7*	(5.1)	21.5	(5.7)	71.5	(5.3)	79.3	(4.7)
New Hampshire	7.4!	(2.8)	44.9	(6.6)	51.6*	(6.5)	25.0	(5.1)	75.8	(6.9)	73.2	(8.2)
New York	17.4	(5.2)	60.1	(5.6)	72.4	(5.3)	34.3	(6.3)	86.0	(3.6)	84.0	(4.1)
Rhode Island	‡	‡	52.9	(8.5)	57.6	(10.2)	29.6!	(9.4)!	67.5	(10.6)	74.0	(10.3)
Vermont	‡	‡	37.0*	(7.8)	38.0*	(6.8)	29.5	(7.7)	70.4	(8.8)	79.4	(5.3)
Region	13.6	(3.1)	54.0	(3.8)	66.5	(3.5)	30.8	(4.3)	81.6	(2.3)	82.5	(2.8)
Nation	11.9	(0.7)	55.3	(1.0)	73.2	(0.8)	28.4	(1.3)	80.0	(0.9)	78.4	(1.1)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 19

Percentage of beginning teachers who felt well prepared or very well prepared during their first year of teaching, by activity and by Northeast Region state and nationally, 2003/04–2007/08

Area	Handle a range of classroom management or discipline situations		Use a variety of instructional methods		Teach assigned subject matter		Use computers in classroom instruction		Assess students		Select and adapt curriculum and instructional materials	
Connecticut	62.2	(4.7)	82.2*	(3.3)	91.3*	(2.4)	72.9	(4.7)	78.4*	(3.5)	75.2*	(4.4)
Maine	65.0	(5.2)	72.3	(4.9)	85.6	(3.5)	64.4	(6.4)	61.4	(6.4)	64.8	(6.3)
Massachusetts	59.7	(6.0)	72.8	(4.8)	86.2	(3.6)	56.1	(6.2)	63.7	(5.9)	70.0	(5.7)
New Hampshire	70.2	(5.9)	70.2	(5.2)	84.2	(5.9)	54.8*	(6.5)	67.8	(5.3)	72.3	(7.1)
New York	49.7	(6.7)	71.4	(5.8)	88.2	(4.4)	63.3	(6.3)	69.5	(5.0)	71.9	(4.0)
Rhode Island	58.7	(11.2)	78.9	(9.5)	100.0*	(0.0)	68.5	(8.2)	88.4*	(6.3)	82.6	(7.7)
Vermont	59.2	(8.1)	79.6	(6.0)	82.9	(5.7)	59.2	(8.2)	66.1	(7.8)	74.8	(7.0)
Region	54.7	(4.2)	73.2	(3.6)	88.1	(2.6)	62.7	(4.0)	69.4	(3.2)	72.0	(3.0)
Nation	59.3	(1.1)	71.3	(1.0)	82.8	(0.9)	67.0	(1.0)	70.0	(1.1)	65.2	(1.0)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

variety of instructional methods, teach assigned subject matter, use computers in instruction, assess students, and select and adapt curriculum and instructional materials. A statistically higher percentage of beginning teachers in Rhode Island reported being well or very well prepared to teach assigned subject matter and assess students. A statistically lower percentage of beginning teachers in New Hampshire reported being well or very well prepared to use computers in classroom instruction.

Characteristics of the students and classes taught by beginning public school teachers

Class size. Beginning teachers who taught the same group of students all or most of the day in multiple subjects or who worked with one or more teachers in the same class at the same time and who were jointly responsible for teaching the same group of students all or most of the day taught an average of 19 students regionally and 20.9 students nationally (table 20). The estimates for Maine (16.4) and Vermont (16.4) are statistically lower than the national estimate.

For beginning teachers who taught “a small number” of students in specific skills or who addressed students’ specific needs, either inside or outside their regular classrooms (commonly called pull-out and push-in classes), the reported average nationally was 10.1 students taught at any one time. The estimates for Massachusetts, New Hampshire, and Vermont are statistically lower than the national estimate.

Number of classes taught. The average number of separate classes taught by beginning teachers who instructed several classes of different students most or all of the day in one or more subjects or elementary school teachers who taught one subject to different classes of students was similar regionally (5.7 percent) and nationally (5.6 percent; see table 20).² The estimate for Vermont (4.8) is statistically lower than the national estimate.

Students with individualized education programs. Regionally, beginning teachers reported that 19.5 percent of the students they taught had individualized education programs, though the

TABLE 20

Average number of students, class size, and number of separate classes taught by beginning teachers, by Northeast Region state and nationally, 2007/08

Area	Average number of students taught in one class		Average pull-out or push-in class size		Average number of separate classes taught	
Connecticut	19.2	(0.9)	11.6!	(5.6)	5.8	(0.4)
Maine	16.4*	(1.4)	6.7	(1.8)	6.7	(1.0)
Massachusetts	18.8	(2.5)	6.6*	(1.3)	5.9	(0.8)
New Hampshire	22.0	(3.7)	4.2*	(1.0)	5.4	(0.6)
New York	19.0	(1.9)	‡	‡	5.6	(0.7)
Rhode Island	21.1	(4.2)	9.2!	(4.4)	6.4	(1.0)
Vermont	16.4*	(1.1)	4.1*	(1.1)	4.8*	(0.3)
Region	19.0	(1.3)	10.4!	(3.3)	5.7	(0.4)
Nation	20.9	(0.4)	10.1	(0.9)	5.6	(0.1)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate’s value.

Note: Numbers in parentheses are standard errors.

Source: Authors’ analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 21

Average percentage of students with individualized education programs and limited English proficient students whom beginning teachers reported teaching, by Northeast Region state and nationally, 2007/08

Area	Students with individualized education programs		Limited English proficient students	
Connecticut	13.2	(2.4)	3.7*!	(1.1)
Maine	19.9	(2.4)	‡	‡
Massachusetts	22.2	(4.1)	5.1!	(2.0)
New Hampshire	21.5*	(2.8)	4.2*!	(1.7)
New York	20.1	(4.7)	13.3	(3.1)
Rhode Island	13.3	(3.2)	1.3*!	(0.5)
Vermont	14.5	(2.8)	‡	‡
Region	19.5	(3.1)	9.5	(1.8)
Nation	15.7	(0.7)	9.5	(0.8)

* Differs from the national estimate by a statistically significant margin ($p < .05$).

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors. Estimates are percentages of all students that teachers taught during 2007/08, whether, for example, the teacher taught the same 20 students all day or six different groups of 20 students throughout the day.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

percentage varied across the region (table 21). Nationally, the estimate is somewhat lower, at 15.7 percent. Only the New Hampshire estimate (21.5 percent) is statistically different from the national estimate.

Limited English proficient students. Regionally and nationally, beginning teachers reported that 9.5 percent of their students, on average, were limited English proficient (see table 21). Within the Northeast Region there is variation, however. Estimates for Connecticut, New Hampshire, and Rhode Island are statistically lower than the national average

49.8 percent nationally were teaching in schools that were identified for improvement in 2006/07 (for not making adequate yearly progress for two consecutive years or more in the same content area). There are no statistically significant differences between estimates for any of the Northeast Region states and the national estimates.

Comparison of beginning teacher measures for each state and the national estimate

Table 23 provides a snapshot of how estimates for each state compare with the national estimates on each variable examined, showing whether a state's estimate is statistically higher or lower than the national estimate. For variables with multiple categories, some of which may be higher and some lower than the national estimate, an asterisk denotes whether the variable for a particular state is statistically different from the national estimate. A blank cell suggests the state estimate was not statistically different from the national estimate or that the estimate for a state is not reportable.

Beginning teachers and school improvement status

Adequate yearly progress. Approximately three-quarters of beginning teachers regionally (77.1 percent) and nationally (72.3 percent) worked in schools that had made adequate yearly progress in 2006/07, as reported by their principals (table 22). Among those working in schools that were reported not to have made adequate yearly progress in 2006/07, 79.9 percent regionally and

TABLE 22

Percentage of beginning teachers whose schools made adequate yearly progress in 2006/07 and whose schools did not make adequate yearly progress and were identified as in improvement in 2006/07, by Northeast Region and nationally, 2007/08

Area	Teachers in schools that made adequate yearly progress in 2006/07		Teachers in schools that did not make adequate yearly progress and were identified for school improvement in 2006/07	
Connecticut	74.8	(7.1)	69.0	(14.7)
Maine	72.9	(7.2)	‡	‡
Massachusetts	68.3	(12.3)	70.9	(14.1)
New Hampshire	60.9	(8.8)	47.0!	(14.7)
New York	82.0	(7.0)	‡	‡
Rhode Island	79.5	(12.6)	87.0!	(27.7)
Vermont	81.2	(13.4)	89.6	(15.3)
Region	77.1	(5.1)	79.9	(6.0)
Nation	72.3	(1.6)	49.8	(2.9)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE 23

Beginning teacher measures on which Northeast Region states differed from the national estimate by a statistically significant margin, 2007/08

Measure	Con-necticut	Maine	Massa-chusetts	New Hamp-shire	New York	Rhode Island	Vermont
What are the demographic characteristics of beginning public school teachers in the Northeast Region states and nationally?							
Percentage who were female							
Percentage who were Hispanic							
Percentage who were White	+	+	+	+			
Average age							
What are the preparation and certification characteristics reported by beginning public school teachers in the Northeast Region states and nationally?							
Percentage with a bachelor's degree			-				
Percentage whose bachelor's degree was awarded by a department, school, or college of education			-	-		+	
Percentage by undergraduate major			*		*		
Percentage who had a master's degree	+		+	+	+		
Percentage whose master's degree was awarded by a department school, or college of education		-		-			
Percentage who have a concentration in reading							
Percentage who had any coursework on teaching methods			+		+		
Percentage who had coursework on teaching methods by number of teaching methods courses				*			
Percentage by length of teaching practice	*!				*!		
Percentage with regular teaching certificate		-		+			

(CONTINUED)

TABLE 23 (CONTINUED)

Beginning teacher measures on which Northeast Region states differed from the national estimate by a statistically significant margin, 2007/08

Measure	Con-necticut	Maine	Massa-chusetts	New Hamp-shire	New York	Rhode Island	Vermont
Percentage who entered teaching through alternative certification	–		–!				
Percentage by primary area of certification					*		
Percentage whose primary certification does not restrict grade level		+					
Percentage by grade level of primary certification		*					
Percentage teachers “highly qualified” in their state							
Percentage not “highly qualified” overall but highly qualified in at least one subject area							
What induction and supports do beginning public school teachers report receiving in the Northeast Region states and nationally?							
Percentage that participated in an induction program							–
Percentage with reduced teaching preparations		–					
Percentage with common planning time		–					–
Percentage with seminars or classes for beginning teachers		–	–	–			–
Percentage with extra classroom assistance							
Percentage with regular supportive communication with principal or other administrators							
Percentage with ongoing guidance or feedback from a mentor or master teacher							
Percentage who felt well prepared or very well prepared to:							
Handle a range of classroom management or discipline situations							
Use a variety of instructional methods	+						
Teach assigned subject matter	+					+	
Use computers in classroom instruction				–			
Assess students	+					+	
Select and adapt curriculum and instructional materials	+						
What are the characteristics of the students and classes taught by beginning public school teachers in the Northeast Region states and nationally?							
Average number of students in a class		–					–
Average pull-out or push-in class size			–	–			–
Average number of separate classes taught							–
Average percent of students with individualized education program				+			
Average percentage of limited English proficient students	–!			–!		–!	
What percentage of beginning public school teachers in the Northeast Region states and nationally work in schools that made and did not make adequate yearly progress?							
In schools that made adequate yearly progress in 2006/07							
In schools that did not make adequate yearly progress and were identified for improvement							

+Estimate is statistically different from and higher than the national estimate.

– Estimate is statistically different from and lower than the national estimate.

* Estimate is statistically different from the national estimate for variables with multiple categories, some of which may be higher and some lower than the national estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate’s value.

Note: A blank cell indicates that the state estimate was not statistically different from the national estimate or that the state estimate is not reportable.

Source: Authors’ analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

STUDY LIMITATIONS

Although estimates derived from the SASS are reliable at the national, regional, and state levels, this study has several limitations. The SASS sample is designed to be representative of all teachers, not necessarily of particular subgroups. It is possible that the subsample of beginning teachers surveyed was not representative of the population of beginning teachers. The group of beginning teachers is small as a percentage of each state's sample of teachers, ranging from 15 percent to 23 percent (unweighted sample). In many cases, state-level estimates have large standard errors that make the estimates unreliable. In addition, some other estimates should be interpreted with caution, as noted in the text and tables.

A second limitation relates to the variable used to identify beginning teachers. Teachers were asked, "Was your FIRST year of teaching before the 2003/04 school year?" Teachers might define their first year of teaching differently. For example, one teacher might include student teaching time and another might not. This study defines beginning teachers as teachers who reported that they were in their fifth year or less of teaching at the time of data collection.

Third, the SASS collects data on teachers' self-reported experiences and perceptions of those experiences; individuals might have different ways of conceptualizing their preparedness, for example. Additionally, individual teachers might interpret certain questions differently; for example, what one teacher classifies as an induction program, another might not.

APPENDIX A REVIEW OF THE LITERATURE

The findings are mixed for the literature on supporting beginning teachers; beginning teachers' education, preparation, and certification; beginning teachers' participation in supports and their sense of preparation for teaching; and characteristics of beginning teachers' classrooms and schools. Nonetheless, the study authors were able to identify several factors associated with teachers' sense of preparedness, their demonstrated effectiveness as measured by student achievement, and their plans to remain in the profession.

Importance of supporting beginning teachers

Federal law (No Child Left Behind Act of 2001, 2008) requires that states and school districts ensure that all students are taught by highly qualified teachers. As new teachers enter the profession, states and districts are also responsible for ensuring that these teachers become effective. In this policy environment, state education agencies have become more interested in helping districts recruit, develop, and support beginning teachers (Consortium for Policy Research in Education 2009; Jupp 2009; National Comprehensive Center on Teacher Quality 2009). This study focuses on beginning teachers because research suggests that, during the first three years of teaching, teachers improve their ability to affect student achievement (Rivkin, Hanushek, and Kain 2004). However, 40–50 percent of beginning teachers leave the profession within five years (Ingersoll and Smith 2003), and most teacher turnover occurs at the beginning of careers and at retirement (Guarino, Santibañez, and Daley 2006).

The current study defines beginning teachers as those reporting that they were in no later than their fifth year of teaching when data was collected. Using 2007/08 Schools and Staffing Survey (SASS) data, the study focuses on teacher education and preparation, professional support and teachers' sense of preparedness, and the characteristics of teachers' classrooms and schools. The literature suggests that these areas are associated

with factors that state and local education agencies seek to foster in their beginning teachers, such as preparedness, effectiveness (as measured by student achievement), and retention.

Beginning teachers' education, preparation, and certification

The current study describes beginning teachers' formal education, preparation for teaching through coursework and fieldwork, and certification pathways. Research has examined whether these characteristics are related to student outcomes, with varying findings. Constantine et al. (2009) conducted a randomized controlled trial of teachers prepared through different certification routes, comparing alternatively certified teachers with traditionally certified teachers in the same schools. No statistical difference between these teachers' student achievement was found. Further, after controlling for other teacher characteristics, the study's nonexperimental analyses found no correlation between student achievement and the amount of teacher coursework in certain content areas (for example, math pedagogy), the amount of fieldwork, or having majored in education. However, Croninger et al. (2009), who focused on early childhood using hierarchical linear modeling and data from the Early Childhood Longitudinal Study, reported that having teachers who took coursework in math and reading methods was positively associated with grade 1 student achievement. Wayne and Youngs (2003) conducted a systematic literature review and concluded that teachers with advanced degrees are positively associated with math achievement for high school students, but the research was inconclusive on the relationship between teachers with advanced degrees and literacy or science achievement. And Allen (2003) noted moderate support in the literature for the view that teachers with strong subject matter knowledge increase student achievement, as well as for consensus that teachers should practice teaching. The research was not definitive about the best way for teachers to acquire such field experience.

Research has also examined whether beginning teachers' formal education, preparation,

and characteristics of certification are related to teacher retention. Borman and Dowling (2008), in a meta-analysis of factors affecting teacher attrition, concluded that teachers with advanced degrees are more likely than teachers with other degrees to leave teaching than those without advanced degrees. The study found also that teachers with a traditional or regular teaching certificate could be less likely to leave teaching than those without a certificate. Borman and Dowling (2008) also asserted that teachers with degrees in math and science could be more likely to leave teaching. Similarly, using hierarchical linear modeling with the 1999/2000 SASS, Strunk and Robinson (2006) reported that teachers with specialized degrees, such as in foreign language, could be more likely than teachers with nonspecialized degrees to leave teaching.

Findings are mixed on the relationship between teacher certification and student achievement and on the importance of traditional or alternative routes to certification. Some studies, such as Constantine et al. (2009) and Kane, Rockoff, and Staiger's (2008) regression analysis using panel data on New York City teachers and students, found little difference among the performance of certified, uncertified, and alternatively certified teachers. Darling-Hammond et al. (2005) used regression analysis with student and teacher data from Houston, Texas, to assert a positive association between certification and student achievement, regardless of the route to certification. Goe and Stickler's (2008) review of the research concluded that certification status appeared to matter more in math than in other subject areas (see also Wayne and Youngs 2003). Glazerman, Mayer, and Decker (2006), in a randomized study of one alternative teacher certification pathway (Teach For America),³ concluded that teachers had a positive impact on math achievement but no significant impact on reading achievement) when compared with a control group of teachers.⁴

Beginning teachers' participation in supports and their sense of preparation for teaching

The current study also examines whether beginning teachers participated in supports, such as

induction programs, and how they described their sense of preparation or readiness for teaching, including classroom management and instruction. Researchers have studied whether beginning teachers' participation in various school supports and their early sense of preparation are related to student outcomes and teacher retention. While beginning teachers can obtain support by participating in mentoring and induction programs, the research findings for the effectiveness of these programs are mixed. Smith and Ingersoll (2004), in a study of first-year teachers using the 1999/2000 SASS data, found that participation in mentoring and induction programs was associated with reduced turnover among beginning teachers. Fletcher, Strong, and Villar's (2008) regression analysis also reported positive relationships between mentoring programs and student achievement. Glazerman et al.'s (2010) analysis of a randomized experiment, however, concluded no impact of comprehensive induction programs⁵ on achievement in the first two years of teaching but significant and positive impacts in the third year. That study also found that comprehensive induction programs did not affect new teachers' feelings of preparedness to instruct, work with students, or work with colleagues.

Beginning teachers can also gain support through collaborative school structures, such as common planning time and professional development. Goddard, Goddard, and Tschannen-Moran (2007) surveyed elementary school students and teachers in a large Midwestern district, finding that teachers with opportunities to participate in well developed professional learning communities (see also Vescio et al. 2008) tend to be associated with gains in student achievement. Jackson and Bruegmann (2009) computed a value-added model using longitudinal data to determine that a teacher's students make larger achievement gains when the teacher works with peers who have higher mean value-added scores.

Additionally, researchers have investigated professional development's effect on teachers' classroom practices and its relationship with student

achievement. Wallace (2009), using structural equation modeling, found that increased professional development was associated with positive reported classroom practices in reading and math. Yoon et al. (2007) identified a relationship between professional development and improved student achievement.

Professional, collaborative support structures also might enhance teacher retention. Teachers who reported more positive administrative support, who participated in a school mentoring program, and who had more opportunities for teacher networks and collaboration tended to have lower rates of attrition (Borman and Dowling 2008).

Previous preparation experiences and school supports could enhance beginning teachers' self-reported readiness to teach. Researchers have examined whether teachers feel prepared to teach under the heading "teacher efficacy—the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran, Hoy, and Hoy 1998, p. 233). Based on a longitudinal study of participants in a master's in education program (Hoy and Spero 2005) and a large survey of graduate school student teachers at three universities (Tschannen-Moran and Hoy 2007), teachers' efficacy beliefs tended to increase with experience and beginning teachers relied more on support from colleagues to develop feelings of self-efficacy. In a study of teachers in Canada using quantitative analysis of baseline and follow-up teacher surveys and student achievement, as well as qualitative case studies of schools, teachers with a higher sense of efficacy when involved in larger school improvement efforts were

more likely to set instructional goals, persevere through challenges, and have classes with higher student achievement (Bruce et al. 2010).

Characteristics of beginning teachers' classrooms and schools

Finally, the current study describes characteristics of beginning teachers' classrooms and schools, such as student achievement levels under the current accountability system established by the No Child Left Behind Act of 2001. Several researchers have examined how workplace conditions and school environments are related to teacher retention and sense of support. Ingersoll and Smith (2003), using the SASS and a survey examining teacher turnover, revealed that 29 percent of beginning teacher turnover was due to dissatisfaction in workplace conditions, such as feeling unable to handle student-related issues, lack of administrative support, and class size. Teacher turnover was higher in environments lacking resources and are those described as having poorer working conditions—typically, schools with higher proportions of racial/ethnic minority students and students from low-income households (Borman and Dowling 2008; Loeb, Darling-Hammond, and Luczak 2005; Strunk and Robinson 2006). Teachers working in suburban schools tended to have greater access to mentoring and induction supports than teachers working in rural or high-poverty, high racial/ethnic minority schools (Johnson et al. 2004; Wei et al. 2010). Lastly, schools defined as "low-performing," that is, schools with lower average student achievement scores, also tended to have higher rates of teacher attrition and turnover (Borman and Dowling 2008; Clotfelter et al. 2004).

APPENDIX B DATA AND METHODOLOGY

This appendix describes the study's data source and methodology.

Data source

This study examines data from the 2007/08 Schools and Staffing Survey (SASS), conducted by the National Center for Education Statistics (NCES). The SASS is a set of surveys that can be linked by school. This study uses variables from the Teacher Survey and two variables from the linked Principal Survey (table B1). (See appendix C for a fuller discussion of the sampling procedures, use of weights, and imputation.) The surveys are representative of public school teachers and principals, including those who work in public charter schools, at the national, regional, and state levels.

The subsample of beginning teachers is defined as teachers who reported starting teaching during or after the 2003/04 school year and so were in no later than their fifth year of teaching at the time the data was collected. Beginning teachers were identified in the SASS database by their response to the survey item: "Was your FIRST year of teaching before the 2003/04 school year?" Those who answered "No" are included in the subsample. The SASS asks this subgroup a series of questions about supports they received or participated in during their first year of teaching.

Approach

This study used the SASS dataset to conduct a descriptive statistical analysis of the characteristics and experiences of beginning teachers in the Northeast Region states. These state data are then compared with the regional and national

estimates. Tests of difference between estimates for each state and the national estimates are conducted, and statistical significance is noted.⁶

The complex sampling process used to collect SASS data (see appendix C) necessitates using special statistical procedures to produce reliable estimates. All estimates and statistical tests were produced with the NCES-recommended balanced repeated replication weighting procedures using the Stata statistical software program. For continuous variables such as age, means and standard errors are presented. For dichotomous and categorical variables, percentages and standard errors are presented. Estimates are produced for each Northeast Region state separately, for the Northeast Region, and for the entire country. All Northeast Region states are also included in the national estimates. Difference-in-means tests and Chi-square tests were used to determine whether there is a significant difference between estimates for individual Northeast Region states and the national estimate. Tests of statistical differences were not conducted between estimates for the Northeast Region and the national estimates, as regional estimates are provided for descriptive purposes only. The national estimates should not be considered as a standard or norm to which the states should be compared; rather, they are provided as descriptive data to help states assess their data in the context of findings for other states and the country as a whole.

The study applied two NCES guidelines pertaining to SASS data. First, if the standard error of an estimate was greater than 50 percent of the estimate, the estimate is considered not sufficiently reliable to meet reporting standards. Such estimates are not presented in this report. Additionally, estimates with standard errors of 30–50 percent of the estimate are reported but should be interpreted with caution.

TABLE B1

Variables used in the analysis and survey source

Variable description (SASS question number)	Source survey	Possible values	Notes
Beginning teacher—began teaching before 2003/04 (Q36)	Teacher	Yes No	
State (variable: state_abb)	Teacher	All 50 states	The Northeast Region states (Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, Vermont) were examined individually.
What are the demographic characteristics of beginning public school teachers in the Northeast Region states and nationally?			
Sex (Q67)	Teacher	Male Female	
Hispanic or Latino origin (Q68)	Teacher	Yes No	
Race (Q69)	Teacher	White Black or African American Asian Native Hawaiian or Other Pacific Islander American Indian or Alaska Native	
Age (Q71)	Teacher	Continuous	Question 71 asks for year of birth, which the National Center for Education Statistics uses to calculate age.
What are the preparation and certification characteristics reported by beginning public school teachers in the Northeast Region states and nationally?			
Bachelor's degree (Q23a)	Teacher	Yes No	
Degree awarded by department, school, or college of education (Q23c)	Teacher	Yes No	
Major field of study (Q23d)	Teacher	Elementary education Secondary education Special education Other education Arts and music English and language arts English as a second language Foreign language Health education Mathematics and computer science Natural science Social sciences Vocational, career, or technical education Miscellaneous	
Master's degree (Q25a)	Teacher	Yes No	

(CONTINUED)

TABLE B1 (CONTINUED)

Variables used in the analysis and survey source

Variable description (SASS question number)	Source survey	Possible values	Notes
Degree awarded by department, school, or college of education (Q25c)	Teacher	Yes No	
Concentration or specialization in reading (Q27)	Teacher	Yes No	
Coursework focused on teaching methods (Q29)	Teacher	Yes No	
Number of courses focused on teaching methods (Q29)	Teacher	1 or 2 courses 3 or 4 courses 5–9 courses 10 or more courses	
Length of practice teaching (Q30)	Teacher	No practice teaching 4 weeks or less 5–7 weeks 8–11 weeks 12 weeks or more	
Entered teaching through alternate certification program (Q31)	Teacher	Yes No	
Teaching certificate held in state (Q33a)	Teacher	Regular or standard state certificate or advanced professional certificate Certificate issued after satisfying all requirements except probationary period Certificate that requires additional coursework Certificate issued to persons who must complete certification program to continue teaching Do not hold any of the above certifications	
Area of certification (Q33b1)	Teacher	Elementary education Secondary education Special education Other education Arts and music English and language arts English as a second language Foreign language Health education Mathematics and computer science Natural science Social sciences Vocational, career, or technical education Miscellaneous	
Grade ranges of certification (Q33b2)	Teacher	Early childhood, preschool, and any of grades K–5 Any of grades 6–8 Any of grades 9–12 Not restricted to any grades	

(CONTINUED)

TABLE B1 (CONTINUED)

Variables used in the analysis and survey source

Variable description (SASS question number)	Source survey	Possible values	Notes
Highly qualified teacher in state (Q35a)	Teacher	Yes No	
Highly qualified in at least one subject area taught (Q35b)	Teacher	Yes No	
What induction and supports do beginning public school teachers report receiving in the Northeast Region states and nationally?			
First year teaching sense of preparation for: <ul style="list-style-type: none"> • Handling range of classroom management or discipline situations • Using variety of instructional methods • Teaching subject matter • Using computers in instruction • Assessing students • Selecting and adapting curriculum and instructional materials (Q37a–f) 	Teacher	Not at all prepared Somewhat prepared Well prepared Very well prepared	
Participation in induction program in first year (Q38)	Teacher	Yes No	
Types of support received during first year of teaching (Q39a–f): <ul style="list-style-type: none"> • Reduced teaching schedule or number of preparations • Common planning time with teachers in subject • Seminars or classes for beginning teachers • Extra classroom assistance • Regular supportive communication with principal, other administrators, or department chair • Ongoing guidance or feedback from master or mentor teacher 	Teacher	Yes No	
What are the characteristics of the students and classes taught by beginning public school teachers in the Northeast Region states and nationally?			
Total number of students taught (Q18)	Teacher	Continuous	This question was asked only of teachers who instruct the same group of students all or most of the day in multiple subjects or who are one of two or more teachers in the same class at the same time jointly responsible for teaching the same group of students all or most of the day.

(CONTINUED)

TABLE B1 (CONTINUED)

Variables used in the analysis and survey source

Variable description (SASS question number)	Source survey	Possible values	Notes
Average class size (Q19)	Teacher	Continuous	This question was asked only of teachers who instruct a small number of selected students released from their regular classrooms or in their regular classrooms in specific skills or who address specific needs (sometimes called a "pull-out" class or "push-in" instruction).
Number of separate class periods or sections taught (Q21)	Teacher	Continuous	This question was asked only of teachers who instruct several classes of different students most or all of the day in one or more subjects (sometimes called departmentalized instruction) or are an elementary school teacher who teaches only one subject to different classes of students (sometimes called an elementary subject specialist).
Number of students taught with an individualized education program (Q13)	Teacher	Continuous	Of all the students teacher teaches at this school, the number with an individualized education program because they have disabilities or are special education students. The National Center for Education Statistics variable IEP_T was used, based on Q13; this is reported as a percentage.
Number of students identified as limited English proficient (Q14)	Teacher	Continuous	Of all the students that a teacher instructs at this school, the number that are limited English proficient. The National Center for Education Statistics variable LEP-T was used, based on Q14; this is reported as a percentage.
What percentage of beginning public school teachers in the Northeast Region states and nationally work in schools that made and did not make adequate yearly progress?			
School made adequate yearly progress in 2006/07 (Q32)	Principal	Yes No	
School identified for improvement in 2006/07 for failing to make adequate yearly progress (Q33)	Principal	Yes No	

APPENDIX C STUDY SAMPLE, WEIGHTS, AND IMPUTATION

This appendix describes the study sample and selection, the weights used in the dataset, and the fully imputed data from the Schools and Staffing Survey (SASS) used in this study.

Sample

In creating the SASS sample, schools are sampled first, based on the 2005/06 survey of all elementary and secondary schools in the United States (U.S. Department of Education 2010). The sample of schools is a stratified probability proportional to sample size (U.S. Department of Education n.d. a). The principal of each sampled school is also sampled for the Principal Survey. Teachers are sampled from a list of all full-time and part-time teachers in the sampled schools that responded. The sample of teachers thus draws across all grades and subjects. Response rates for those receiving the survey are 79 percent for the Principal Survey and 84 percent for the Teacher Survey (table C1; U.S. Department of Education n.d. a).

The national sample of public school teachers for the 2007/08 SASS is about 38,000 teachers listed in the public school database; 9,340 (24 percent) are beginning teachers. Within each of the seven REL Northeast and Islands Region states included

in this study, the unweighted percentage of new teachers ranges from 15 percent of the state sample to 23 percent.

Weights

The survey datasets each contain a series of weights that, when used with the appropriate statistical software procedures, produce more accurate estimates (means and percentages) by using adjusted standard errors. The standard errors are adjusted using the balanced repeated replication procedures, which adjust standard errors to account for nonresponse and for the complex, stratified design of the SASS samples. The survey data are fully imputed by the National Center for Education Statistics (NCES) to estimate any missing values in responses (see below).

Imputation

Not all respondents to the SASS survey answered every question. To deal with missing data, NCES employs multiple imputation to fully impute the SASS datasets; the fully imputed data were used for this study. Table C2 indicates, for each variable used in this study, the percentage of cases that were imputed.

Imputation uses a variety of statistical techniques to complete a dataset by filling in answers that

TABLE C1

Base-weighted response rates on the 2007/08 Schools and Staffing Survey for public school districts, schools, principals, teachers, and school library media centers, by Northeast Region states and nationally (percent)

Area	Principals	Teacher listing form	Teacher questionnaire	Overall teacher response rate
Connecticut	66.0	76.4	80.5	61.4
Maine	84.1	89.8	86.2	77.4
Massachusetts	76.1	83.9	82.8	69.5
New Hampshire	89.9	88.9	87.8	78.1
New York	78.0	80.1	81.3	65.1
Rhode Island	70.2	84.0	68.3	57.4
Vermont	83.7	94.3	81.9	77.2
Nation	79.4	86.2	84.0	72.5

Source: Tourkin et al. 2010.

TABLE C2

Percentage of cases imputed by the National Center for Education Statistics on the 2007/08 Schools and Staffing Survey, by research question and variable

Variable name	Variable description and SASS question number	Source survey	Imputation as a percent of total records affected
What are the demographic characteristics of beginning public school teachers in the Northeast Region states and nationally?			
T0352	Sex (Q67)	Teacher	0.7
T0353	Hispanic origin (Q68)	Teacher	1.4
T0354-358	Race (Q69)	Teacher	2.9
T0360	Year of birth	Teacher	1.6
Age_T	Mean age	Teacher	na
Age-CAT	Categorical age	Teacher	na
What are the preparation and certification characteristics reported by beginning public school teachers in the Northeast Region states and nationally?			
T0110	Bachelor's degree (Q23a)	Teacher	0.4
T0112	Degree awarded by department, school, or college of education (Q23c)	Teacher	1.4
T0113	Major field of study (Q23d)	Teacher	1.8
T0120	Master's degree (Q25a)	Teacher	0.9
T0122	Master's degree awarded by department, school, or college of education (Q25c)	Teacher	0.4
T0123	Master's degree major field of study	Teacher	0.8
T0144	Concentration or specialization in reading (Q27)	Teacher	9.5
T0150	Coursework focused on teaching methods (Q29)	Teacher	0.9
T0151	Number of courses focused on teaching methods (Q29)	Teacher	1.9
T0152	Length of practice teaching (Q30)	Teacher	7.7
T0153	Entered teaching through alternate certification program (Q31)	Teacher	1.1
T0154	National Board for Professional Teaching Standards certified in at least one content area (Q32)	Teacher	1.5
T0155	Working toward National Board for Professional Teaching Standards certification (Q32b)	Teacher	2.5
T0160	Teaching certificate held in state (Q33a)	Teacher	0.6
T0161	Area of certification (Q33b1)	Teacher	1.6
T0162-0164	Grade range of certification (Q32b2)	Teacher	2.0
T0211	Highly qualified teacher in state (Q35a)	Teacher	2.7
T0212	Highly qualified in at least one subject area taught	Teacher	1.1
What induction and supports do beginning public school teachers report receiving in the Northeast Region states and nationally?			
T0214-T0219	First year teaching sense of preparation (Q37a-f)	Teacher	1.4
T0220	Participation in induction program in first year (Q38)	Teacher	1.6
T0221-0226	Types of support received during first year of teaching (Q39a-f)	Teacher	1.3
What are the characteristics of the students and classes taught by beginning public school teachers in the Northeast Region states and nationally?			
T0070	Total number of students taught (Q18)	Teacher	2.8
T0071	Average class size (Q19)	Teacher	0.2

(CONTINUED)

TABLE C2 (CONTINUED)

Percentage of cases imputed by the National Center for Education Statistics on the 2007/08 Schools and Staffing Survey, by research question and variable

Variable name	Variable description and SASS question number	Source survey	Imputation as a percent of total records affected
T0077	Number of separate class periods or section taught (Q21)	Teacher	3.2
IEP_T	Number of students taught with an individualized education program	Teacher	na
LEP_T	Number of students identified as limited English proficient	Teacher	na
What percentage of beginning public school teachers in the Northeast Region states and nationally work in schools that made and did not make adequate yearly progress?			
A0216	School made adequate yearly progress in 2006/07 (Q32)	Principal	3.3
A0217	School identified for improvement in 2006/07 for failing to make adequate yearly progress (Q33)	Principal	1.0

na is not applicable.

SASS is Schools and Staffing Survey.

Source: Authors' compilation based on Tourkin et al. (2010).

respondents voluntarily skipped but otherwise should have had a valid response for. Imputation does not apply to questions that respondents were instructed to skip based on a previous response.

The imputation process used by SASS is described as follows by NCES in a Methodology and Technical Notes document on the Restricted-Use data disk (U.S. Department of Education n.d. b):

After the final edits were run, cases with “not-answered” values for items remained. Values were imputed using a two stage process. In the first stage, items were imputed with a valid response using data either from the sample frame, other items in the same SASS questionnaire, or another questionnaire associated with the same school or school district. In addition, data were ratio adjusted in some circumstances so that items were consistent with one another. In the second stage, donor-respondent

methods, such as hot-deck imputation, were used. If no suitable donor case could be matched, the few remaining items were imputed with a mean or mode from groups of similar cases. After each stage of imputation, computer edits were run again to verify that the imputed data were consistent with the existing questionnaire data. If that was not the case, an imputed value was blanked out by one of these computer edits due to inconsistency with other data within the same questionnaire or because it was out of the range of acceptable values. In these situations, Census Bureau analysts looked at the items and tried to determine an appropriate value. Imputation flags, indicating which imputation method was used, were assigned to each imputed survey variable. For further information, see the section on data processing and imputation in the *Documentation for the 2007–08 Schools and Staffing Survey* (Tourkin et al. 2010, p. 7).

**APPENDIX D
COMPARISON OF BEGINNING
TEACHERS SAMPLED IN THE SCHOOLS
AND STAFFING SURVEY**

The Schools and Staffing Survey (SASS) Teacher Survey provides two ways to identify beginning teachers: a five-year criterion and a three-year criterion. This report defines beginning teachers as teachers who answered “no” to question number 36 on the Schools and Staffing Survey (SASS): “Was your FIRST year of teaching before the 2003/04 school year?” A “no” response indicated that these

teachers have five or fewer years of teaching experience. However, the Schools and Staffing Survey (SASS) is sampled to provide a nationally representative sample of beginning teachers using a new variable called NEWTCH for teachers “who have three or fewer years of experience including full- and part-time teaching experience in public and private schools” (Tourkin et al. 2010, p. T-9). The variable is coded as follows: if TOTEXPER le 3 then NEWTCH = 1; else NEWTCH = 2.

The tables in this appendix show the differences between the samples for the two definitions.

TABLE D1
The number and percentage of beginning teachers in the Northeast Region and nationally, 2007/08

Area	Five-year variable				Three-year variable			
	Total weighted number of beginning teachers		Percentage of beginning teachers		Total weighted number of beginning teachers		Percentage of beginning teachers	
Connecticut	10,302	(1,069.9)	20.6	(1.8)	7,002	(805.9)	14.0	(1.4)
Maine	3,158	(498.0)	17.7	(2.7)	2,379	(429.6)	13.4	(2.4)
Massachusetts	17,700	(2,453.4)	22.0	(2.7)	13,104	(1930.4)	16.3	(2.2)
New Hampshire	3,276	(402.1)	18.8	(2.2)	2,499	(370.0)	14.3	(2.2)
New York	52,409	(6,098.2)	23.0	(2.1)	37,363	(4271.8)	16.4	(1.7)
Rhode Island	2,050	(376.9)	15.5	(2.6)	1,028	(274.3)	7.8	(2.0)
Vermont	1,476	(228.3)	14.4	(2.0)	1,053	(193.8)	10.3	(1.8)
Region	90,370	(6,286.7)	21.7	(1.2)	64,429	(4,406.1)	15.4	(1.0)
Nation	832,264	(28,050.3)	24.4	(0.7)	578,550	(23,141.4)	17.0	(0.6)

Note: Numbers in parentheses are standard errors.

Source: Authors’ analysis of 2007/08 Schools and Staffing Survey teacher data.

TABLE D2
Percentage of beginning teachers who are female, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	72.9	(4.5)	79.6	(5.2)
Maine	69.5	(5.7)	70.1	(6.4)
Massachusetts	75.4	(4.2)	80.3	(4.4)
New Hampshire	78.4	(6.1)	76.1	(8.6)
New York	72.9	(5.1)	71.2	(5.8)
Rhode Island	80.4	(8.7)	86.2	(13.8)
Vermont	77.0	(7.2)	76.2	(9.5)
Region	73.7	(3.3)	75.5	(0.9)
Nation	75.7	(0.7)	74.4	(3.7)

Note: Numbers in parentheses are standard errors.

Source: Authors’ analysis of 2007/08 Schools and Staffing Survey teacher data.

TABLE D3

Percentage of beginning teachers who are Hispanic, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	‡	‡	‡	‡
Maine	‡	‡	‡	‡
Massachusetts	‡	‡	‡	‡
New Hampshire	‡	‡	‡	‡
New York	9.5!	(2.9)	‡	‡
Rhode Island	‡	‡	‡	‡
Vermont	‡	‡	‡	‡
Region	6.7	(1.7)	6.8	(2.8)!
Nation	9.8	(0.9)	9.9	(1.3)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of 2007/08 Schools and Staffing Survey teacher data.

TABLE D4

Percentage of beginning teachers who are White, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	97.0	(1.5)	97.7	(1.9)
Maine	97.8	(2.0)	96.9	(3.0)
Massachusetts	96.9	(2.0)	98.4	(1.8)
New Hampshire	97.8	(1.3)	98.4	(1.4)
New York	86.5	(5.8)	87.4	(6.1)
Rhode Island	98.6	(2.5)	100.0	(0.0)
Vermont	99.1	(1.5)	98.7	(2.3)
Region	91.0	(3.5)	92.0	(3.7)
Nation	89.4	(0.8)	89.2	(0.9)

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of 2007/08 Schools and Staffing Survey teacher data.

TABLE D5

Percentage of beginning teachers with primary certification in elementary and secondary education, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	42.4	(6.1)	46.1	(7.3)
Maine	35.6	(7.1)	39.7	(6.9)
Massachusetts	34.1	(6.8)	36.0	(8.2)
New Hampshire	38.8	(7.2)	35.3	(9.4)
New York	31.7	(6.0)	34.0	(7.7)
Rhode Island	39.2	(9.3)	42.6!	(16.5)
Vermont	36.7	(8.3)	26.8!	(9.9)
Region	34.0	(4.0)	36.0	(5.0)
Nation	43.6	(1.1)	44.7	(1.3)

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of 2007/08 Schools and Staffing Survey teacher data.

TABLE D6

Percentage of beginning teachers with primary certification in special education, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	7.5!	(2.5)	7.2!	(3.2)
Maine	10.1!	(4.5)	8.8!	(4.4)
Massachusetts	9.6!	(3.6)	12.6!	(4.6)
New Hampshire	10.6!	(3.7)	11.6!	(4.4)
New York	14.1!	(5.0)	11.9!	(5.2)
Rhode Island	‡	‡	‡	‡
Vermont	‡	‡	‡	‡
Region	11.9	(3.2)	11.2!	(3.3)
Nation	10.3	(1.0)	10.2!	(1.2)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D7

Percentage of beginning teachers with primary certification in arts and music, by Northeast Region state and nationally 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	9.9!	(3.9)	‡	‡
Maine	11.5!	(3.9)	9.0!	(3.8)
Massachusetts	9.2!	(2.9)	10.9!	(4.8)
New Hampshire	‡	‡	‡	‡
New York	10.3!	(3.2)	9.6!	(3.3)
Rhode Island	15.1!	(6.7)	‡	‡
Vermont	‡	‡	‡	‡
Region	9.9	(2.4)	9.6	(2.6)
Nation	6.1	(0.7)	5.0	(0.7)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D8

Percentage of beginning teachers with primary certification in English and English language arts, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	6.0	(1.7)	5.8!	(2.4)
Maine	6.1!	(2.0)	6.8!	(2.5)
Massachusetts	9.6!	(4.2)	10.7!	(4.8)
New Hampshire	9.3!	(3.6)	‡	‡
New York	9.8	(2.7)	8.3!	(2.9)
Rhode Island	‡	‡	‡	‡
Vermont	10.5!	(4.4)	15.9!	(6.8)
Region	9.1	(1.8)	8.7	(2.0)
Nation	9.1	(0.8)	9.2	(1.0)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D9

Percentage of beginning teachers with primary certification in health and physical education, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	3.9!	(1.9)	‡	‡
Maine	‡	‡	‡	‡
Massachusetts	‡	‡	‡	‡
New Hampshire	7.4!	(3.0)	‡	‡
New York	‡	‡	‡	‡
Rhode Island	11.3!	(5.5)	0	0
Vermont	‡	‡	‡	‡
Region	4.6!	(1.4)	3.9!	(1.3)
Nation	4.6	(0.4)	4.5	(0.5)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D10

Percentage of beginning teachers with primary certification in math and computer science, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	6.8!	(2.2)	6.1!	(2.3)
Maine	4.7!	(2.1)	‡	‡
Massachusetts	7.3!	(2.5)	6.2	(2.7)
New Hampshire	‡	‡	‡	‡
New York	16.3	(2.9)	20.5	(4.0)
Rhode Island	‡	‡	‡	‡
Vermont	‡	‡	‡	‡
Region	12.3	(1.8)	14.4	(2.6)
Nation	6.8	(0.5)	6.9	(0.6)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D11

Percentage of beginning teachers with primary certification in natural sciences, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	8.1	(2.0)	6.4!	(2.2)
Maine	7.3!	(3.2)	8.6!	(4.1)
Massachusetts	6.0!	(2.2)	‡	‡
New Hampshire	‡	‡	‡	‡
New York	‡	‡	‡	‡
Rhode Island	‡	‡	0.0	(0.0)
Vermont	‡	‡	‡	‡
Region	4.8	(1.2)	4.2!	(1.4)
Nation	4.7	(0.5)	4.9	(0.7)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D12

Percentage of beginning teachers with primary certification in social sciences, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	7.6!	(3.4)	‡	‡
Maine	5.2!	(2.0)	‡	‡
Massachusetts	11.3	(2.7)	6.9!	(2.3)
New Hampshire	‡	‡	‡	‡
New York	4.6!	(1.9)	‡	‡
Rhode Island	‡	‡	‡	‡
Vermont	‡	‡	‡	‡
Region	6.4	(1.5)	5.4!	(1.7)
Nation	6.5	(0.6)	6.0	(0.7)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D13

Percentage of beginning teachers with primary certification in vocation, career, and technical education, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	4.9!	(2.1)	5.6!	(2.6)
Maine	‡	‡	‡	‡
Massachusetts	3.7!	(1.4)	4.3!	(1.8)
New Hampshire	‡	‡	‡	‡
New York	‡	‡	‡	‡
Rhode Island	‡	‡	0.0	(0.0)
Vermont	‡	‡	‡	‡
Region	2.9	(0.8)	2.2	(0.6)
Nation	4.5	(0.3)	4.6	(0.4)

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Note: Numbers in parentheses are standard errors.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

TABLE D14

Percentage of beginning teachers with primary certification in other areas, by Northeast Region state and nationally, 2007/08

Area	Five-year variable		Three-year variable	
Connecticut	2.9!	(1.4)	‡	‡
Maine	9.0!	(3.8)	8.4!	(4.0)
Massachusetts	4.8	(1.4)	6.0!	(1.9)
New Hampshire	9.0!	(3.6)	‡	‡
New York	3.3!	(1.3)	3.9!	(1.8)
Rhode Island	‡	‡	0.0	(0.0)
Vermont	‡	‡	‡	‡
Region	3.9	(0.9)	4.4	(1.3)
Nation	3.8	(0.4)	3.9	(0.5)

Note: Numbers in parentheses are standard errors. Other areas include English as a second language, foreign languages, health education, and miscellaneous. The categories were collapsed to eliminate categories with no reportable estimates for any state or with standard errors of 30–50 percent of the estimate's value.

‡ Reporting standard not met; the standard error of the estimate is greater than 50 percent of the estimate.

! Estimate should be interpreted with caution; the standard error equals 30–50 percent of the estimate's value.

Source: Authors' analysis of beginning teacher data from the 2007/08 Schools and Staffing Survey.

NOTES

1. The SASS is not conducted in Puerto Rico and the Virgin Islands, two other jurisdictions in the Northeast and Islands Region.
2. In answering the SASS question on number of separate classes taught, teachers reported that they either instruct several classes of different students most or all of the day in one or more subjects or, as an elementary school teacher, taught only one subject to different classes of students.
3. Teach for America is an alternative pathway to certification that recruits recent college and university graduates. Teach for America teachers are not certified when they begin teaching. They instead participate in five weeks of summer training before entering the classroom. Most Teach for America teachers are concurrently enrolled in a degree or certification program, and 51 percent of the Teach for America teachers were certified when data were collected (Glazerman, Mayer, and Decker 2006).
4. Control group teachers included both certified and uncertified teachers, teachers with and without degrees in education, and teachers with varying amounts of preservice student teaching experience (Glazerman et al. 2006).
5. Comprehensive induction programs are “intensive, structured, and sequentially delivered supports” often “delivered through experienced, trained full-time mentors and may also include a combination of school and district orientation sessions, special in-service training (professional development), classroom observations, and constructive feedback through formative assessment” (Glazerman et al. 2010, p. xxiii). Glazerman et al. (2010) did not compare comprehensive induction programs to no induction program but to the typical program at the control schools.
6. For two states with the same estimates, one might be significantly different from the national estimate and the other might not, because each test is a pairwise comparison of the state and the national estimates, and each state sample size is different, as is the standard error for each state’s estimate.

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