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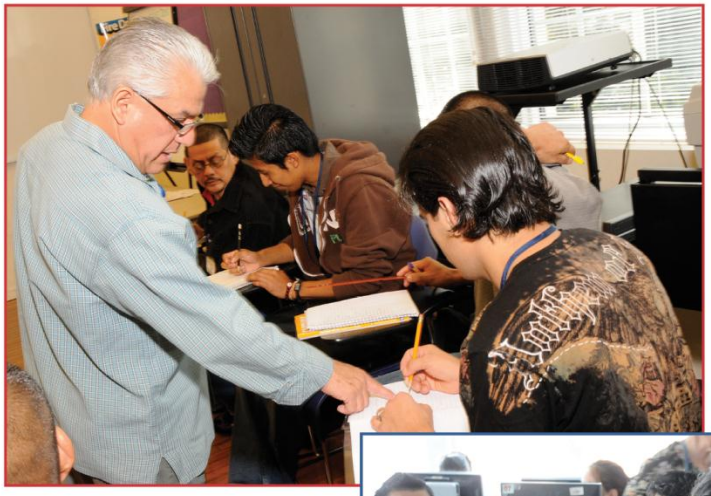
TEACHERS OF ADULT EDUCATION AND THE STUDENTS THEY SERVE

A Snapshot From Three States



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Contents

Page

Teachers of Adult Education and the Students They Serve: A Snapshot From Three States 1

Highlights: What We Have Learned So Far 2

Who Teaches Adult Education? 3

Whom Do Adult Education Teachers Teach? 8

Do Different Types of Adult Education Students Get Different Types of Teachers? 10

Suggested Next Steps 14

Technical Notes 16

- Data Cleaning Procedures 16
- Analysis File Preparation 17

References 18

Teachers of Adult Education and the Students They Serve: A Snapshot From Three States

Adults and out-of-school youth who participate in adult education programs come from diverse educational and linguistic backgrounds and have a wide range of goals and needs. Some rely on the adult education system to learn basic literacy or English skills, while others need help preparing for employment or high school equivalency testing and the transition to postsecondary education. Evidence on the outcomes of adult education students suggests that adult education instruction helps students meet their goals; in 2010–11, for example, 48% of unemployed students who enrolled with the goal of finding employment—roughly 78,000 students—were employed shortly after leaving their adult education program (National Reporting System, 2013b).[1]

Despite the important role that adult education can play in student outcomes, little is known about the approximately 55,000 adult education teachers providing the instruction that students depend on to achieve their goals (National Reporting System, 2013c).[2] This information deficit limits what can be learned about teachers of adult education and what it is about those teachers that makes them more or less effective in improving student outcomes. For example, some (Smith & Hofer, 2003; Young, Fleischman, Fitzgerald, & Morgan, 1995) have voiced concerns about the part-time status of the majority of adult education teachers (80% nationally are part-time teachers; National Reporting System, 2013c); however, many of those teachers may have other types of job and teaching experiences that make them effective teachers of adults. In the absence of available data, these types of concerns cannot be addressed.

The role of teacher characteristics—such as degrees held, years of experience, and certification—has received much more attention in the research literature for K–12 education, for which data are more readily available. The research has been fairly consistent in finding that some teachers are in fact more effective than others and that effective teachers are associated with both the short- and long-term outcomes of their students (Chetty, Friedman, & Rockoff, 2011; Hanushek, 2010; Rockoff, Jacob, Kane, & Staiger, 2011). However, the research on what exactly it is about those teachers that makes them more effective has been inconsistent (see Rice [2003] and Wayne & Youngs [2003] for reviews), and what makes a K–12 teacher effective may not directly transfer to adult education.

This brief is the first in a series of briefs that explore data on adult education teachers from three states in program year 2010–11. The current brief is descriptive and is organized around the following questions:

- Who teaches adult education?

[1] In program year 2010–11, more than 2 million students participated in adult education in the United States (National Reporting System [NRS], 2013b)

[2] In the 2012–13 program year, the National Reporting System administered by OCTAE began collecting state and national data on select teacher characteristics, such as years of experience teaching adult education and type of teaching certification. Prior to this time, the only data available were on teaching employment status, including full-time, part-time, and volunteer status.

- Who do adult education teachers teach?
- Do different types of adult education students get different types of teachers?
- Based on initial analyses, what are some potential next steps for research on teachers of adult education?

The data for this brief were provided by three states: Two that served large numbers of learners in program year 2010–11—primarily in urban centers—and one state that served smaller numbers of more rural learners. Data primarily came from each state's accountability reporting system, which is used to report to the NRS each year. Analyses include all paid teachers and their students in program year 2010–11. See Table 1 for the number of teachers and students included in the analyses.

Table 1. Number of Adult Education Teachers and Students Included in Analyses, by State: 2010–11

	State 1	State 2	State 3
Number of teachers	104	1,860	2,803
Number of students	2,511	71,581	103,629

The companions to this brief (Yin, Condelli, Ogut, & Cronen, 2015; Yin, Cronen, Condelli, & Ogut, 2015) use the same data to investigate the relationship between teacher characteristics—such as full-time or part-time status—and their students' test score gains and transitions to postsecondary education. Together, these briefs provide a first look into what we know about adult education teachers. In the following section, we provide some highlights of what we have learned about the adult education teachers in the three participating states and how different types of teachers are distributed across adult basic education (ABE), adult secondary education (ASE), and English as a second language (ESL) students. The remainder of the brief provides additional details on the characteristics of teachers and students in those states, explores how the backgrounds of teachers vary by the types of students they serve, and provides some recommendations for future research on adult education teachers. **Readers should be cautioned that the findings presented are based on three or fewer states, and therefore are not generalizable to the full adult education population.**

Highlights: What We Have Learned So Far

In this section, we summarize the key findings from the study. More detailed information and additional findings about teachers' and students' characteristics are provided below.

The teacher and student data available in the three states varied, but most adult education teachers in 2010–11 appeared to meet common definitions of what it means to be a qualified educator[3] in terms of highest degree held, certification status (based on data from two states), and years of adult education teaching experience. This pattern generally held for both full- and part-time teachers. Specifically

- All or nearly all teachers in the three states held at least a bachelor's degree, and 35%–55% held a master's degree.

[3] http://www2.ed.gov/nclb/methods/teachers/hqtflexibility.html

- In State 1, all teachers were required to hold a state certification, and more than half (57%) of teachers in State 2 held some type of certification. No certification data were available for State 3.
- The majority of teachers had 3 or more years of experience teaching in adult education, with an average of 6 years in State 2, 11 years in State 1, and 13 years State 3.
- Part-time teachers were as likely as full-time teachers to be highly educated or certified. In two states, a higher percentage of part-time teachers held a master's degree or certification than did full-time teachers. Part-time teachers were, however, less experienced than full-time teachers. This may reflect policies to bring new teachers in as part-time teachers before granting full-time status, or it may be an indicator of higher turnover among part-time staff (e.g., Young et al., 1995).

An important issue related to teacher effectiveness is whether different types of students—such as lower level (ABE) students—have equal access to qualified teachers. Based on our analysis of data from three states, this was not always the case. There were differences in the qualifications of teachers instructing ESL, ABE, and ASE students in the three states studied during program year 2010–11, although those differences were not always consistent across states and were often small in magnitude:

- In State 1, a somewhat larger percentage of ESL and ASE students had teachers with master's degrees (60% for both groups) than ABE students (55%). In addition, 16% of ESL students in State 1 had teachers with a doctorate or a professional degree, whereas no or nearly no ABE or ASE students had teachers with these advanced degrees. ESL students in State 3 also tended to have somewhat more educated teachers than did other types of students; however, this pattern was reversed in State 2.
- ESL students in State 1 were nearly all (93%) taught by experienced teachers (i.e., 5 or more years of teaching experience), followed by ASE students (87%) and ABE students (82%). Within States 2 and 3, however, a somewhat higher percentage of ASE students had the experienced teachers (61% in State 2 and 81% in State 3) than ABE students (56% in State 2 and 77% in State 3) or ESL students (52% in State 2 and 76% in State 3).
- In addition, ESL students in States 2 and 3 were more likely than other students to have a part-time teacher (87% and 95%, respectively), but this pattern was not found in State 1.

Who Teaches Adult Education?

The demographic characteristics of adult education teachers in the three states were relatively homogeneous. The majority of teachers in our sample were female (71%–79%) and in two states the majority were White (67%–81%) (Table 2). Data on race and ethnicity were not available for one state. In addition, although they represent a small proportion of teachers in each state, a larger percentage of teachers in State 3 were Hispanic (11%) compared to State 1 (3%).

In terms of teacher qualifications, adult education teachers in the three states were college educated, all or most were certified (based on data from two states), and many were experienced in teaching adult education. All or nearly all teachers in the three states held at least a bachelor's

degree, and 35%–55% held a master's degree. In State 1, all teachers held a state certification (a state requirement; not shown in tables), and more than half (57%) of teachers in State 2 held some type of certification. Similarly, the majority of teachers in the three states had 3 or more years of experience teaching in adult education, with an average that ranged from 6 years in State 2 to 13 years in State 3 (Figure 1). For reference, public K–12 teachers had, on average, 14 years of teaching experience.[4] Note, however, that adult education teachers may also have additional years of experience teaching K–12, but this experience is not usually included in the adult education program data.

Table 2. Percentage Distribution of Adult Education Teachers With Various Demographic and Professional Characteristics, by State: 2010–11

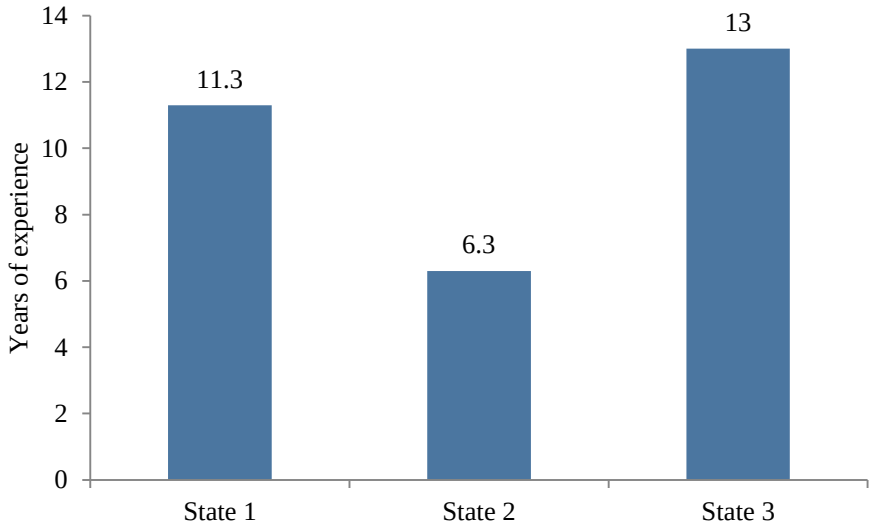
	State 1	State 2	State 3
Gender			
Male	21.4	28.7	26.3
Female	78.6	71.3	73.7
Race/ethnicity			
White	80.8	†	67.1
African American	8.7	†	12.6
Hispanic	2.9	†	10.7
Other	7.7	†	9.7
Highest degree held			
No degree	0	0.5	0.7
Associate's	0	0	0.7
Bachelor's	43.6	63.0	45.0
Master's	54.7	34.6	46.6
Doctorate or professional	1.7	1.9	2.4
Other	0	0	4.6
Certification			
None	†	43.3	†
Elementary	†	23.7	†
Secondary	†	20.2	†
Both	†	12.8	†
Program location			
Urban area	48.7	76.6	†
Rural area	51.3	22.0	†
Other	†	1.4	†

[4] Based on the 2011–2012 Schools and Staffing Survey (SASS), downloaded from http://nces.ed.gov/surveys/sass/tables/sass1112_2013314_t1s_003.asp.

	State 1	State 2	State 3
Employment status			
Full-time	26.7	11.5	8.6
Part-time	73.3	88.5	91.4
Years of experience in adult education			
2 or less	0	38.8	15.1
3 to 5	27.7	18.4	19.1
6 to 10	28.6	22.2	19.4
11 to 15	18.8	11.5	12.7
More than 15	25.0	9.1	33.7
Paid preparation time			
No	21.8	†	†
Yes	77.2	†	†
Hours of professional development (PD) in 2010–11			
0	‡	0	12.6
1 to 8	‡	2.6	50.0
9 to 16	‡	26.5	27.1
17 to 32	‡	43.5	7.6
More than 32	‡	27.4	3.1

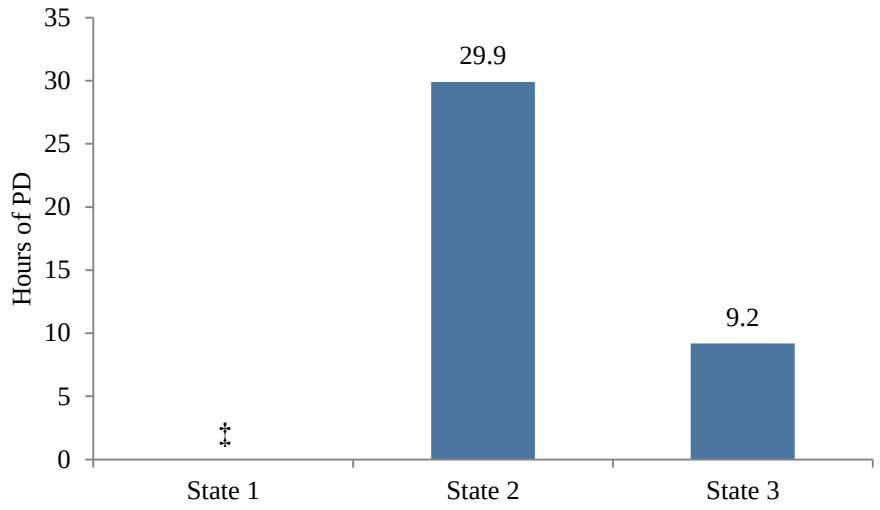
[1]State 1 requires all teachers to be certified in K–12 and does not differentiate between elementary and secondary certification.
† Data not available.
‡ Data suppressed because reporting standards were not met. Over one-third of cases had missing values or included hours from unspecified years.

Figure 1. Adult Education Teachers' Average Years of Experience in Adult Education, by State: 2010–11



As expected, most teachers worked in adult education on a part-time basis, ranging from 73% in State 1 to 91% in State 3. However, despite concerns in the literature, adult education teachers in at least the three states examined here did appear to receive supports, such as paid prep time and professional development (PD) opportunities. In State 1, 77% of teachers received paid preparation time in 2010–11 (Table 2); data were not available for other states. Teachers' participation in PD in 201011 varied by state; teachers in State 2 participated in an average of 30 hours of PD in 2010–11, compared with teachers in State 3, who participated in 9 hours of PD (Figure 2). Data from State 1 represented teachers' total hours of PD across an unspecified numbers of years. Therefore, PD findings are not presented for State 1. Note that there is no common definition of professional development provided in adult education across states, so quality of such services might vary significantly.

Figure 2. Adult Education Teachers' Average Hours of Participation in Professional Development (PD), by State: 2010–11



‡ Data suppressed because reporting standards were not met. More than one-third of cases had missing values or included hours from unspecified years.

Table 3 provides 2010–11 teacher characteristics for full-time versus part-time teachers in each state. The findings suggest that, compared with full-time teachers, a larger percentage of part-time teachers

- were female,
- held a master's degree (in two states),
- held some type of teaching certification (in one state), and
- had 5 or fewer years of experience teaching in adult education.

Conversely, in comparison to full-time teachers, a *smaller* percentage of part-time teachers

- were African American (in two states),
- held a master's degree (in one state), and
- had more than 5 years of experience teaching in adult education.

Table 3. Percentage of Adult Education Teachers With Various Demographic and Professional Characteristics, by State and Full-Time or Part-Time Status: 2010–11

	State 1		State 2		State 3	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Gender						
Male	25.8	18.8	29.1	28.6	34.6	25.6
Female	74.2	81.2	70.9	71.4	65.4	74.4
Race/ethnicity						
White	77.4	81.2	†	†	65.4	67.2
African American	9.7	7.1	†	†	19.6	12.0
Hispanic	0	3.5	†	†	9.2	10.8
Other	12.9	8.2	†	†	5.8	10.0
Highest degree held						
No degree	0	0	1.9	0.3	0	0
Associate	0	0	0	0	1.3	0.7
Bachelor's	38.7	45.9	72.3	61.8	51.3	44.4
Master's	58.1	52.9	22.5	36.2	42.1	47.0
Doctorate or professional	3.2	1.2	3.3	1.7	2.5	2.3
Other	0	0	0	0	2.8	5.1
Certification[1]						
None	†	†	50.7	42.4	†	†
Elementary	†	†	22.1	23.9	†	†
Secondary	†	†	23.0	20.0	†	†
Both	†	†	4.2	13.9	†	†
Program location						
Urban area	60.7	42.7	73.8	77.0	†	†
Rural area	39.3	57.3	24.8	21.6	†	†
Other	0	0	1.4	1.4	†	†
Years of experience in adult education						
2 or fewer	0	0	22.5	40.9	12.6	15.4
3 to 5	12.9	33.3	16.9	18.6	12.1	19.7
6 to 10	35.5	25.9	26.8	21.6	19.9	19.4
11 to 15	25.8	16.0	17.8	10.7	16.0	12.4
More than 15	25.8	24.7	16.0	8.2	39.4	33.2
Paid preparation time						
No	25.0	21.9	†	†	†	†
Yes	75.0	78.1	†	†	†	†

	State 1		State 2		State 3	
	Full-time	Part-time	Full-time	Part-time	Full-time	Part-time
Hours of PD in last year						
0	‡	‡	0	0	17.2	12.7
1 to 8	‡	‡	0.9	2.8	28.0	48.4
9 to 16	‡	‡	20.3	27.3	29.1	28.3
17 to 32	‡	‡	36.2	44.5	16.1	7.5
More than 32	‡	‡	42.5	25.5	9.6	3.1

[1]State 1 requires all teachers to be certified in K–12 and does not differentiate between elementary and secondary certification.
† Data not available.
‡ Data suppressed because reporting standards were not met. More than one-third of cases had missing values or included hours from unspecified years.

Part-time teachers, therefore, did not appear to be less qualified overall than their full-time colleagues, with the exception of years of teaching experience in adult education.

Whom Do Adult Education Teachers Teach?

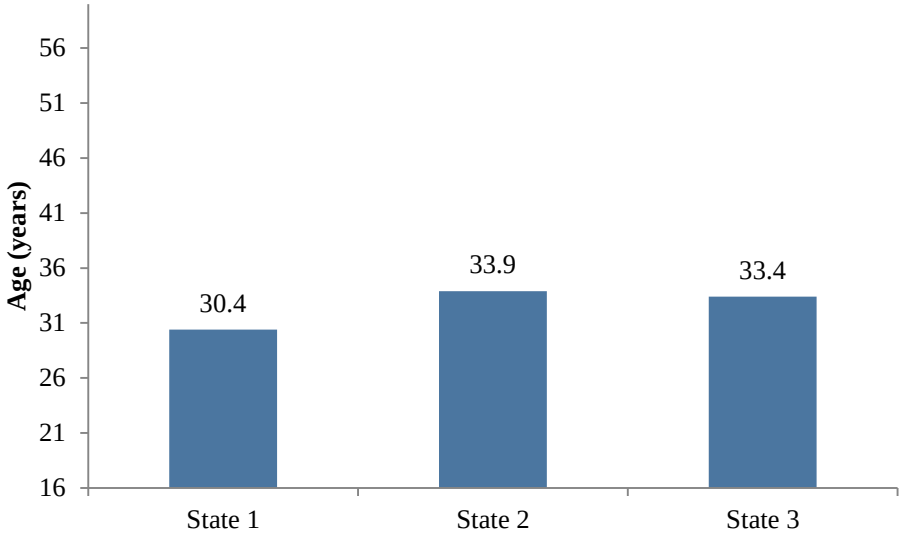
Teachers in the three states served a diverse group of students in program year 2010–11, as shown in Table 4 and Figure 3. The largest group of students in State 1 were White (41%), followed by Hispanic (30%), whereas students in States 2 and 3 were most often Hispanic (79% and 50%, respectively).

State 2 teachers served large percentages of students who were either not in the labor force (42%) or already employed at entry (37%), whereas State 3 teachers mainly served students who were either unemployed (46%) or employed at entry (41%). Individual-level data on employment at entry was not available for State 1; however, based on aggregate NRS data for 2010–11, most students were either not in the labor force or were unemployed at entry.

Students' average ages ranged from 30 to 34 years old across the three states examined,[5] and educational background varied widely in the one state for which data were available. Approximately one-quarter of the students in State 2 had completed 8th grade or below, and just under half had completed at least one year of high school (9th grade or above).

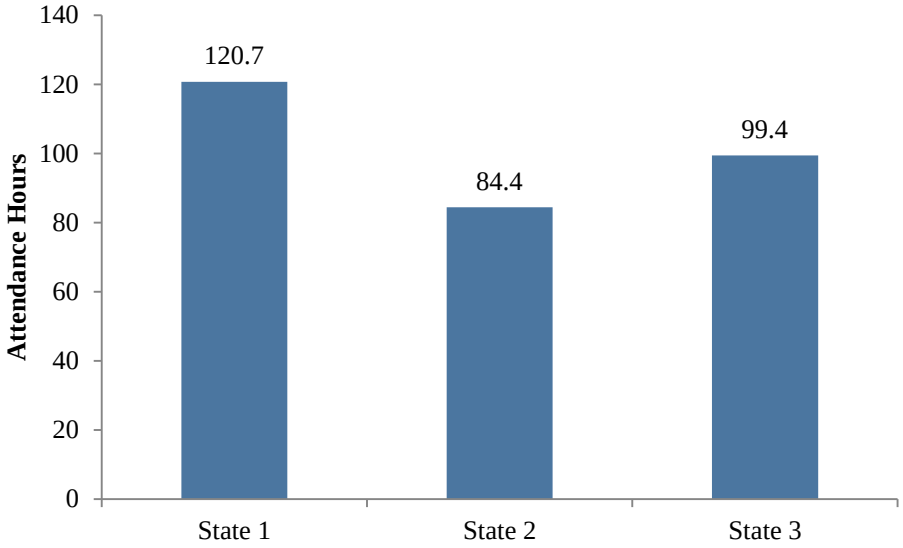
[5] Similarly, the national modal student age category reported to the NRS was 25–44 years old for 2010–11. Average student age is not available through the NRS.

Figure 3. Adult Education Students' Average Age, by State: 2010–11



Students' attendance hours for 2010–11 also varied by state and ranged from an average of 84 hours in State 2 to 121 hours in State 1 (Figure 4). For reference, the average number of attendance hours reported nationally in 2010–11 was 129 hours.[6,7]

Figure 4. Adult Education Students' Average Attendance Hours, by State: 2010–11



[6] This number includes the outlying areas that report to NRS.
[7] For a special look at short-term participants in one state, see the text box on page 11 of this brief.

Table 4. Percentage of Adult Education Students With Various Demographic Characteristics at Intake, by State: 2010–11

	State 1	State 2	State 3
Race/ethnicity			
White	41.4	9.0	21.4
African American	12.9	7.8	18.7
Hispanic	29.5	78.5	50.5
Other	16.2	9.0	9.4
Highest grade completed			
5th grade or below	†	5.1	†
6th, 7th, or 8th grade	†	18.6	†
9th grade	†	20.6	†
10th grade	†	12.3	†
11th grade	†	11.6	†
12th grade	†	14.3	†
More than 12th grade	†	7.7	†
Other	†	9.4	†
Employment status			
Employed	†	37.4	41.3
Unemployed	†	20.6	46.3
Not in labor force	†	42.0	12.4

† Data not available.

Do Different Types of Adult Education Students Get Different Types of Teachers?

Similar to K–12 education, a priority in adult education is to ensure high-quality teachers for students of all backgrounds. To provide a first look at the backgrounds of teachers serving different adult education student populations, this section focuses on the following general categories of students and those who instruct them:

- *English as a Second Language (ESL)* students lack proficiency in English and seek to improve their literacy and competency in English.
- *Adult basic education (ABE)* students have literacy skills that range from the lowest literacy levels to just below the high school literacy level.

- *Adult secondary education (ASE)* students have literacy skills that are at approximately the high school level and seek to pass the General Educational Development (GED) test or obtain an adult high school credential.
- Table 5 compares the characteristics of students who participated for fewer than 12 hours during the 2010-2011 program, or "short-term participants", to those who participated for more than 12 hours.
- As Table 6 shows, differences did exist in the types of teachers instructing ESL, ABE, and ASE students in program year 2010–2011, although those differences were not always consistent across states. In terms of teachers' demographic backgrounds, a larger percentage of ESL students in State 1 had male teachers (45%) when compared with other types of students (15%–19%), while a relatively small percentage of students in States 2 and 3 had male teachers. A larger percentage of ESL students in States 1 and 3 had Hispanic teachers (8%–18%) than other students, although the majority of ESL students in both states were taught by White teachers (67%–76%).
- Different types of students also had teachers with varying levels of education, but the differences were small and were not consistent across states. For example, in State 1, a larger percentage of ESL and ASE students had teachers with master's degrees (60% for both groups) than ABE students (55%). In addition, 16% of ESL students in State 1 had teachers with a doctorate or a professional degree, whereas no or nearly no ABE or ASE students had teachers with those advanced degrees. ESL students in State 3 also tended to have more educated teachers than did other types of students. This pattern was reversed in State 2, however, where a smaller percentage of ESL students had teachers with a master's degree (or a certification) than other types of students in the state.

Characteristics of Short-Term Participants

Adult education students who participate for fewer than 12 hours during the 2010-2011 program year are of particular interest to policy makers; these students are not included in the accountability reporting by states, raising the question of whether or not short-term participants differ in some way from those who are counted each year as adult education participants. The 2010–11 data available from State 2 did appear to show some minor differences between those who participated for fewer than 12 hours and those who participated longer. A larger percentage of early leavers in State 2 were young (< 25 years old) and White compared with other students, and a smaller percentage was Hispanic. In addition, a larger percentage of early leavers had an education at the 9th through 11th grade levels when compared with other students, but a smaller percentage had a less than 9th grade or greater than 11th grade education. There were also minor differences in employment status—a larger percentage of early leavers were employed or unemployed when compared with other students, whereas a smaller percentage of early leavers were not in the labor force.

Table 5. Percentage of Adult Education Students in State 2 With Various Demographic Characteristics at Intake Who Attended Fewer Than 12 Hours or 12 or More Hours: 2010–11

	Fewer than 12 hours	12 or more hours
Age		
16–18	10.5	7.4
19–24	26.1	18.2
25–44	50.7	54.3
45–59	11.4	17.1
60+	1.4	3.1
Race/ethnicity		
White	14.1	8.6
African American	9.3	7.7
Hispanic	72.5	79
Other	4.1	4.7
Highest grade completed		
5th grade or below	4.2	5.1
6th, 7th, or 8th grade	16.1	18.8
9th grade	21.5	20.6
10th grade	18.2	11.9
11th grade	16.3	11.3
12th grade	11.2	14.5
More than 12th grade	5.1	7.9
Other	7.1	9.6
Employment status		
Employe	41.7	37.1
Unemployed	25.7	20.3
Not in labor force	32.6	42.6

Table 6. Percentage Distribution of ESL, ABE, and ASE Students Having Teachers With Various Demographic and Professional Characteristics, by State: 2010–11

	State 1			State 2			State 3		
	ESL	ABE	ASE	ESL	ABE	ASE	ESL	ABE	ASE
Gender									
Male	44.8	18.5	14.9	29.0	32.7	29.4	27.1	28.8	34.6
Female	55.2	81.5	85.1	71.0	67.3	70.6	72.9	71.2	65.4
Race/ethnicity									
White	76.1	76.3	80.9	†	†	†	67.0	62.1	68.7
African American	7.4	7.6	5.0	†	†	†	4.1	31.8	27.3
Hispanic	8.3	4.8	3.1	†	†	†	18.2	2.0	1.4
Other	8.2	11.3	11.1	†	†	†	10.7	4.1	2.6
Highest degree held									
No degree	0	0	0	0.7	0.1	0.1	0	0	0
Associate's	0	0	0	†	†	†	0.8	0.9	0.5
Bachelor's	23.3	44.8	39.7	68.3	62.4	63.9	43.6	48.5	52.1
Master's	60.2	55.1	60.3	29.5	35.4	33.3	48.6	46.3	44.5
Doctorate or professional	16.5	0.1	0	1.5	2.1	2.7	2.5	2.1	1.4
Other	0	0	0	†	†	†	4.5	2.2	1.5
Certification[1]									
None	†	†	†	50.6	41.8	36.6	†	†	†
Elementary	†	†	†	22.4	22.0	23.2	†	†	†
Secondary	†	†	†	16.7	24.2	25.7	†	†	†
Both	†	†	†	10.3	12.0	14.5	†	†	†
Employment status									
Full-time	41.5	39.6	38.2	86.5	16.5	21.2	5.4	16.3	16.3
Part-time	58.5	60.4	61.8	13.5	83.5	78.8	94.6	83.7	83.7
Years of experience in adult education									
Less than 5	7.1	18.2	12.7	47.8	43.6	38.8	24.2	23.0	19.2
5 or more	92.9	81.8	87.3	52.2	56.4	61.2	75.8	77.0	80.8
Paid preparation time									
No	18.4	17.0	12.5	†	†	†	†	†	†
Yes	81.6	83.0	87.5	†	†	†	†	†	†

[1]State 1 requires all teachers to be certified in K–12 and does not differentiate between elementary and secondary certification.

† Data not available.

The relationship between years of adult education teaching experience and type of students taught was also inconsistent among the states. ESL students in State 1 were nearly all (93%) taught by experienced teachers (i.e., 5 or more years of teaching experience), followed by ASE students (87%) and ABE students (82%). In States 2 and 3, however, a higher percentage of ASE students had the experienced teachers (61%–81%, respectively) than either ABE students (56% in State 2 and 77% in State 3) or ESL students (52% in State 2 and 76% in State 3). In addition, ESL students in States 2 and 3 were more likely than other students to have a part-time teacher (87%–95%, respectively), but this pattern was not found in State 1.

Data were available from State 1 on teachers' paid preparation time. Although a large percentage of all student groups had teachers with paid preparation time, ASE students were somewhat more likely (88%) than ESL or ABE students (82% and 83%, respectively) to have teachers receiving this kind of support.

Suggested Next Steps

This brief is intended to serve as an initial step toward improving and increasing research on teachers of adult education, with the ultimate goal of creating a research base that can be used to guide policy and practice in the field. To help build the research base in adult education—and specifically research on teacher effectiveness in adult education—there are several steps that can be taken at both the national and state levels. First, states can take the following steps to create a research-ready data system:

- Collect standardized administrative data on teachers and include these data *at the individual (nonaggregate) level* in the state's data system. High-priority data not currently uniformly available and our recommended data values include the following:
  - Highest college degree held—no degree, associate's, bachelor's, master's, and doctorate or other professional degree (e.g., J.D.).
  - Certification—no certification, adult education certification, K–12 (or elementary/secondary) certification, special education certification, or TESOL certification (i.e., the categories newly added to the NRS).
  - Years of teaching experience in adult education. Ideally, other types of teaching experience would also be captured, such as teaching at the secondary level.
  - Hours of participation in program-related professional development, reported by program year. For the sake of standardized administrative data collection and tracking, this would include participation in events sponsored by the program and state, such as workshops or webinars on adult literacy instruction, but would not include administrative meetings, activities that teachers choose to participate in on their own that cannot be easily recorded, such as taking courses at a community college that are not tracked by the program, or pursuing a degree. Ideally, the hours would be broken up into topics; however, it would be difficult to standardize those topics across states and to apply those categories uniformly.

  - Paid preparation time—this could be a simple yes or no variable. If the policy applies to all instructional staff in a program, the data can be entered at the program level.

- Make the link between the primary teacher and student clear in the data system for each course. Ideally, use unique identifiers that can be used to track teachers and students over time.
- Make sure the state's data system uses (and outputs) standard, non-zero values to represent missing data, such as an empty cell or "." Variables where this can be a common problem include hours of professional development, hours of attendance, student age, students' years of education, and teachers' years of teaching experience.

State staff and their approved researchers can then use the resulting data to answer their own policy or research questions, such as

- What are the characteristics of adult education teachers in each state, and how do teachers vary within and across states? Do any meaningful patterns emerge that may be affected by the existing policies in each program or state?
- Do different types of students have equal access to qualified teachers?
- Do student outcomes vary by the types of teachers they have? What implications do these relationships have for policy and practice?
- Can models like those constructed in K–12 (e.g., value-added models) be used to reliably identify effective teachers in adult education? Would the use of these models be appropriate in the adult education setting, and if so, how should they be constructed and used?

At the national level, our recommendation would be to

- Consider modifying existing national data collections (e.g., the Schools and Staffing Survey) or conducting new national data collections that will provide data on adult education teachers. Currently, the only data that exist on these teachers come from state data systems and the NRS, and therefore these data are either not easily available or are available only at a state-aggregated level.
- Increase guidance and encouragement to states for making the changes to data systems and conducting the research described above, either through existing mechanisms (e.g., NRS professional development opportunities) or through new support systems. Guidance should incorporate what is learned in K–12 to the extent that it is applicable to adult education but should not rely solely on that research and should evolve to include what is learned from states and others who undertake research on teacher effectiveness going forward.

A high-quality data system will not only assist future research in adult education but also provide resources for states to track program, teacher, and student performances. The improved system can also provide high-quality data for NRS reporting purposes.

Technical Notes

Data Cleaning Procedures

State 1

Student, teacher, and course data were received in multiple Microsoft Excel files and exported into SAS and Stata. To merge the data sets, we examined each data file for unique identifiers. During this process, we communicated with the state several times to ensure that the variables to be used in linking information from different data files were accurate. All variables used in analyses were checked for out-of-range data and data entry errors.

Separate data files for teachers' demographics, experience, and professional development information were received. If a teacher had more than one record (e.g., degree, professional development), data were transformed into a format with only one observation per teacher, with the multiple observations collapsed into categories, such as highest degree obtained and total number of professional development hours. Then all of the teacher's files were merged, resulting in one teacher file with a unique teacher identification number. Because the purpose of the analyses was to study the importance of teacher background qualifications for student learning, teachers with all of the demographics and experience variables missing were excluded.

Similar to teacher data, separate files for student demographics and attendance were received. Duplicate records from student background characteristics data were removed by using the unique student identification numbers. If a student had multiple records (e.g., monthly attendance data), data were collapsed into one record per student, such as total number of days attended in a school year. Individual files for student data were merged to create one student file that included a unique student identifier.

States 2 and 3

We worked directly with States 2 and 3 in preparing the data sets to be used in the analyses, based on what we learned while cleaning and merging the State 1 data. States were first asked to fill out a survey of information available in their systems. The survey was divided into three subsections: teacher variables, class- and program-level information, and student variables. Teacher variables requested included teacher demographics, experience, education, and professional development. Class- and program-level variables included information on course (e.g., type, functioning level) and program characteristics. Student variables requested were student demographics and attendance. After states reported back on the availability of data, they were informed how the data sets should be constructed and provided with mock data files. States were asked to do the following:

- Provide a data set that included one observation per student and teacher.
- Identify a primary teacher. If more than one teacher was teaching the class, identify the teacher who taught the class most in terms of numbers of hours taught as the primary teacher for that class.

- Identify a primary class for each student. If a student was enrolled in more than one course in the same subject, identify the class that the student attended most in terms of number of enrollment hours as the primary course.

During this process, we communicated with the states and answered their questions to clarify the type of information needed in the data as well as the format of the data files.

Analysis File Preparation

State 1

The class data file had unique course identifiers that were associated with teacher identifiers for those teachers teaching the course. However, some courses were taught by more than one teacher. In these cases, we identified a primary teacher by using the numbers of hours taught and assigning the teacher with the highest number as the primary teacher for the class. We used only the cases for which we could identify the primary teacher.

The last piece of information needed to create a cross-walk between teachers, students, and class was the link between students and classes. For this purpose, we used the data file that identified what class or classes a student was taking as well as the student's attendance. If a student was enrolled in more than one class within a subject, we assigned a primary class to the student by using the attendance information. The course that the student attended most was identified as the primary course and the records for other courses were excluded from the data set.

Finally, using the file that linked teachers to courses and the file that linked students to courses, we were able to create a cross-walk file that linked students to teachers. Using this cross-walk, we merged student and teacher files and created one file with the student, teacher, and class information to be used in the analyses.

States 2 and 3

As part of working with States 2 and 3 to prepare the analysis files, we informed them about how to link the student, teacher, and class data files to create one data set for each school year. States 2 and 3 were asked to provide a data set that included one observation per student with information for the primary teacher and class and program information.

During this process, we answered questions from the states and clarified how data files should be formatted. Once received, data were checked for inconsistencies and out-of-range responses. Variable names and formats (e.g., numeric, string) across years were standardized. We then combined data from different years into one file for each state that included year information.

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