An Analysis of Teacher Sorting in Secondary Special Education and Alternative Schools

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Abstract

This study provides nationally representative information about the qualifications and preparation of secondary content and special education teachers in special education and alternative school settings, as compared with teachers in regular schools. Findings demonstrate that a statistically significant relationship did not exist between school types and many teacher inputs. However, a relationship between special education preparation and setting did exist among secondary content teachers. Moreover, results highlight the inadequate number of secondary teachers, both in content areas and in special education, who held a degree and/or certification in special education. Practical and policy implications of these findings are discussed, and limitations are addressed.

Keywords
teacher qualifications, teacher sorting, special education teachers, alternative schools, special education schools

Insufficient Supply and Attrition in Special Education

Chronic shortages and high rates of attrition have plagued special education for more than 30 years. However, shortages do not appear to affect all schools and all classrooms in the same way. Rather, the shortage of qualified, prepared special educators available to work with students with specific disabilities, including emotional/behavioral disorders (EBDs), autism, and intellectual disabilities, as well as regional variations have been noted (Bowen & Klass, 1993; Lauritzen & Friedman, 1991, 1993; McLeskey, Tyler, & Flippin, 2004). More recently, evidence emerged that students with disabilities in high-poverty schools and districts were more likely to be taught by individuals with lesser qualifications and preparation (Fall & Billingsley, 2011; Mason-Williams, 2015), supporting what many researchers have long suggested: Teacher shortages and higher rates of attrition more often affect schools with high concentrations of poor and minority students and in exclusionary school

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settings (Boe, deBettencourt, Dewey, Rosenberg, Sindelar, & Leko, 2013; Brownell, Rosenberg, Sindelar, & Smith, 2004; McLeskey et al., 2004).

In contrast, recent federal reports indicated that the number of full-time special education teachers meeting the highly qualified teacher (HQT) requirements grew to 95% (U.S. Department of Education, Office of Special Education and Rehabilitative Services, 2015). However, these reports may mask the reliance on substitute teachers, the number of positions left unfilled, and the qualifications of indirect service providers who are not required to meet the HQT requirements (e.g., special educators who work as consultant teachers or co-teachers to general educators; Steinbrecher, McKeown, & Walther-Thomas, 2013). Moreover, the federal definition of HQT includes those individuals currently enrolled in a program leading to full certification, no matter how recently enrolled. These subtle nuances in reporting, as well as declines in the overall number of identified students (Boe et al., 2013), may suggest that shortages no longer plague special education. More likely, shortages and high rates of attrition impact certain schools or students with certain characteristics more so than others, leading to an uneven distribution of qualified, prepared special educators (Brownell et al., 2004; Fall & Billingsley, 2011; Mason-Williams, 2015; McLeskey et al., 2004).

**Evidence of Teacher Sorting**

Research from general education on the distribution of teachers clearly documents that teachers “sort” unevenly across schools, with more qualified, better prepared teachers more likely to be employed in low-poverty, low-minority schools and in schools with fewer disciplinary issues (Goldhaber, Lavery, & Theobald, 2014; Lankford, Loeb, & Wyckoff, 2002; Sass, Hannaway, Xu, Figlio, & Feng, 2010). To a great extent, research on teacher sorting has focused on measurable teacher inputs (e.g., certification, experience, or degrees), using these variables as proxies for teacher quality. For instance, Lankford and colleagues (2002) demonstrated that low-qualified teachers (i.e., teachers with less experience, without certification, and from less competitive colleges) were more likely to teach in schools with higher proportions of poor, minority, and low-performing students in New York State. Similarly, Clotfelter, Ladd, Vigdor, and Wheeler (2006) used data from North Carolina to illustrate that African American students in that state were much more likely to be taught by a novice teacher than their White peers. Seemingly contrary to these findings, Ingersoll (2002) used national data to show that the vast majority of teachers held basic qualifications, even in the most disadvantaged schools. However, he argued that students in disadvantaged schools are more likely to be taught by “out-of-field” teachers—teachers without appropriate degrees or certification in the content area that they provide instruction.

More recently, Kalogrides and colleagues conducted two analyses on teacher sorting within schools. First, Kalogrides and Loeb (2013) demonstrated an uneven sorting of novice teachers among classrooms, where novice teachers were more likely to instruct high-needs students (as defined by lower prior achievement and poor or minority status) than their more experienced colleagues. Also, Kalogrides, Loeb, and Betelle (2013) noted that compared with their coworkers, certain teachers systematically received lower achieving students in their classes. Gender, race, and experience all played a statistically significant role in the assignment of teachers within a school, with female, minority, and less experienced teachers more likely to teach low-achieving students. Kalogrides and colleagues suggest that the impact of teacher sorting within a school may have significant implications not only for student achievement, but also for teacher retention.

The finding that teacher sorting can be measured based on prior school performance is alarming, in light of convincing, albeit limited, research evidence suggesting that the academic success of poor and minority students is more dependent on the effectiveness of their teacher than their peers (Goldhaber et al., 2014; Rivkin, Hanushek, & Kain, 2005; Sass et al., 2010). Amid conflicts of the existence of disproportionality and the uneven placement of students with disabilities into exclusionary settings, understanding the extent to which teacher sorting affects the distribution of secondary content and special education teachers in exclusionary schools may be even more urgent (Morgan et al., 2015; O’Connor & Fernandez, 2006; Skiba, Artiles, Kozleski, Losen, & Harry, 2016).

The need for qualified, prepared content and special education teachers in exclusionary secondary schools is clear. Teachers must come ready to provide specialized, individualized instruction and support to the students who often attend these schools after expending all available resources in the regular school and in the community. As a last resort, school and district administrators and families elect to send students to these settings assuming there will be specialized programs designed to meet the unique learning, behavioral, mental health, and security needs of the students who attend. However, the fact that better qualified, more experienced teachers more commonly work in schools with higher performing, less challenging students may be at odds with this assumption (Clotfelter et al., 2006; Goldhaber et al., 2014; Kalogrides & Loeb, 2013; Kalogrides et al., 2013). Without an adequate number of qualified, prepared content area and special educators available, there are serious concerns that these youth may not have access to an equitable education.

**Attempts to Meet the Demand and Increase the Supply**

Difficulties meeting the demand for certified teachers in all classrooms, including exclusionary school settings, led many states to develop new pathways for individuals who
may not be certified in their grade level or content area of instruction. Holding a degree in a content area or in special education typically requires extensive coursework and field experiences. However, in some states passing a test or prior experience in a classroom constitutes adequate knowledge of a content area or of students with disabilities, and is sufficient for an individual to earn certification (Goldrick, Sindelar, Zabala, & Hirsch, 2014). In other states, an individual must complete additional coursework and supervised field experiences to earn certification. For teachers who provide instruction to students with disabilities across a variety of content areas, such pathways provided an opportunity to meet HQT requirements in an efficient way for multiple content areas. At the same time, it is unclear whether such alternatives truly demonstrate a teacher’s knowledge of the content or of special education.

Also meant to help meet demands for teachers, alternative certification (AC) programs allow an individual, often a career changer, to enter a classroom with limited coursework or supervised field experiences. Although some argue that AC programs closely resemble programs considered “traditional” in terms of coursework and supervised field experiences (Rosenberg, Boyer, Sindelar, & Misra, 2007), the extent to which preparation happens before an individual enters the classroom or is considered certified by a state is unclear. Such variation makes it difficult to be confident that individuals who hold certification are prepared, qualified, or knowledgeable about their content or about students with disabilities.

Unfortunately, many of the policy initiatives aimed at increasing the supply of teachers may be counterproductive and ultimately constrain the overall supply of teachers, especially in special education and in exclusionary settings. For instance, research evidence suggests that teachers with less experience and fewer qualifications are more likely to leave the classroom (Boe, Shin, & Cook, 2007). Moreover, research focused on working conditions has suggested that the multiple roles and responsibilities expected of special educators, common in exclusionary schools, may be related to decisions to leave the classroom (Jones, Youngs, & Frank, 2013). Induction programs may help counter attrition by providing mentorship and ongoing training. However, to be effective these programs need to be designed with the unique challenges a novice special education teacher may face, including role ambiguity and isolation—problems similar to those faced by teachers in high-poverty schools (Fall, 2010; Jones et al., 2013; Youngs, Jones, & Low, 2011).

The extent to which secondary content and special education teachers sort among exclusionary school settings remains unknown. To fill this gap, the purpose of this study is to compare the preparation and qualifications of secondary content and special education teachers across school types (e.g., regular, special education, and alternative schools) using nationally representative data. Specifically, this analysis investigated the extent to which teachers held qualifications and preparation using indicators (e.g., teaching experience, certification, preparation pathway, degree in secondary education or their main content area, and amount of preparation) typically used in research on teacher shortages and attrition.

The 2007–2008 administration of the Schools and Staffing Survey (SASS:08) provided data used in this analysis. Although a more current version of the SASS dataset is now available (SASS:12), the SASS:08 data collection marked the beginning of a 5-year, longitudinal study of teachers entering the field (i.e., Beginning Teacher Longitudinal Study [BTLS]) and an analysis of the data is critical to establish a “baseline” for investigations into the role teacher qualifications and school type that may contribute to teacher sorting. The current study replicated and extended previous investigations on teacher sorting by making comparisons by school type, rather than by an enrollment characteristic (e.g., school or district poverty; see Clotfelter et al., 2006; Fall & Billingsley, 2011; Lankford et al., 2002; Mason-Williams, 2015). Using the SASS:08 dataset, three research questions guided the investigation:

**Research Question 1:** Compared with secondary content and special education teachers in regular schools, how qualified and prepared were teachers in special education and alternative school settings (i.e., years of experience, completion of an AC pathway, degree status, amount of coursework, length of practice teaching, and amount of preparation)?

**Research Question 2:** Did a relationship exist between in-field teaching (i.e., holding a degree and/or certification in the content area of instruction) and school setting among secondary content teachers in special education and alternative school settings, and in regular schools?

**Research Question 3:** How did the preparation of secondary content teachers and special educators to meet the individual needs of the students in their classrooms compare across special education and alternative school settings, and regular schools?

**Method**

This study provides a secondary data analysis of the restricted-access version of the SASS:08, delivering nationally representative information about the qualifications and preparation of secondary content and special educators in special education and alternative school settings, as compared with the same type of teachers in regular schools. Administered every 4 years, the SASS provides a snapshot of the resources and programs available in public and private schools by surveying teachers, administrators, and district
represents. This analysis used variables from the public school versions of the Teacher Questionnaire (TQ) and the School Questionnaire (SQ), two of the five questionnaires included in the SASS design. Other researchers have used the SASS datasets to investigate the qualifications and preparation of teachers related to out-of-field teaching (Boe et al., 2007; Ingersoll, 2002), retention and attrition (Boe, Bobbitt, & Cook, 1997; Boe, Bobbitt, Cook, Whitener, & Weber, 1997), and the uneven sorting of special educators (Mason-Williams, 2015). Appropriate approval was obtained from the Institutional Review Board at the university where the analysis was conducted.

Sample
The National Center for Education Statistics (NCES) surveyed 47,440 teachers to create a nationally representative picture of teachers in U.S. public schools for the SASS:08 dataset (Aritomi & Cooperstsmith, 2009). The current analysis focused on those individuals who indicated on the TQ a position as (a) a regular full- or part-time teacher, (b) an itinerant teacher, (c) a long-term substitute teacher, (d) an administrator, or (e) a professional staff member. Next, the sample was limited to only secondary content area and special education teachers. This included secondary teachers who indicated teaching mathematics, English/language arts (ELA), science, or social studies. Excluded from the analysis were elementary teachers, art and music teachers, English as a Second Language or bilingual teachers, foreign language teachers, health or physical education teachers, and vocational or technology education teachers. With appropriate sampling weights applied to account for the complex sampling design, the final sample yielded 5,332 secondary teachers.

Research Design
This study used descriptive analysis to compare the preparation and qualifications of secondary content and special education teachers across school types (i.e., regular, special education, and alternative schools). Similar to previous studies on the inequitable distribution of teachers across schools (Clotfelter et al., 2006; Goldhaber et al., 2014) and in studies of the supply of special educators (Boe et al., 2007; Mason-Williams, 2015), this study incorporated a variety of measurable teacher inputs (e.g., years of experience, preparation type, degree, amount of preparation, teaching certification). The SPSS (Version 22) was used for the analysis. As the investigation relied on descriptive analyses, other methods for estimating variance (e.g., AM or WesVar software) were not necessary. Appropriate sampling weights, renormed for the smaller sample size, were applied throughout the analysis (Thomas & Heck, 2001).

Teacher Qualification and Preparation Measures
Teaching experience. In spite of mixed evidence on the relationship between teaching experience and student academic gains, most agree that teachers in their first few years of teaching are less effective than their more experienced colleagues. Therefore, an NCES-created, dichotomous variable was used to identify teachers from the SASS:08 dataset in their first 3 years of teaching, similar to methods used by Clotfelter et al. (2006) and Mason-Williams (2015).

AC. A question on the TQ asked respondents to indicate whether they entered teaching through an AC program. NCES (2007b) defined an AC program as “a program that was designed to expedite the transition of non-teachers to a teaching career, for example, a state, district, or university or alternative certification program” (p. 5). Despite debates over the value, definition, and need for AC programs, the significant reliance on these programs to fill special education positions, especially in hard-to-staff schools, makes this variable worth including (Mason-Williams, 2015).

Degree status. Using questions from the TQ, a dichotomous variable indicating whether a teacher had a bachelor’s degree or less or a master’s degree or more was created, similar to other studies (Boe et al., 2007; Clotfelter et al., 2006; Mason-Williams, 2015). Although the value of an advanced degree in raising student academic achievement is debated, most school districts attach some sort of benefit for attaining advanced degrees, such as increased salary or a more permanent certification, and completion of an advanced degree appears to have some effect on retention (for a full discussion, see Ladd & Sorensen, 2015).

Formal preparation. Three variables were used to investigate the formal preparation of teachers. First, the amount of coursework variable identifies how many undergraduate or graduate courses a respondent completed that focused on teaching methods. Next, a variable for length of practice teaching summarizes the length of time a respondent indicated completing. Last, a variable used by Boe and colleagues (2007) was replicated, which combined the amount of coursework with the length of practice teaching variable. In this analysis, extensive teacher preparation included at least 12 weeks of practice teaching and five or more courses focused on teaching methods. Some teacher preparation included any amount less than 12 weeks of practice teaching and at least some courses focused on teaching methods. No teacher preparation was reserved for those individuals who indicated no time practice teaching and only one or two courses focused on teaching methods.

Degrees in a content area, in secondary education, or in special education. The TQ allows respondents to provide information about the major fields of study for the variety of degrees
a teacher may hold, including associate’s, bachelor’s, master’s, and doctoral levels. For this investigation, several variables identified whether a teacher held a bachelor’s or master’s degree in their self-identified main content area (i.e., ELA, math, science, or social studies), in noncontent specified secondary education, or in special education. As Ingersoll (2002) and others have noted, in-field teaching plays a substantial role in teacher retention and student academic achievement. Although degrees in multiple content areas may be valued or preferred, only in-field degrees were investigated in this analysis.

Certification in a content area or in special education. Similar to the degree variable, the TQ provides respondents with many opportunities to indicate the array of certifications he or she may possess. This variable indicated which teachers held full certification, including regular or probationary, in their respective content area and/or in special education. Provisional or temporary certifications were not included in this group, as individuals holding these certificates had coursework or other requirements to be completed to gain full certification. Although No Child Left Behind Act (NCLB) and Individuals With Disabilities Education Act (IDEA) 2004 may regard these individuals as highly qualified, questions remain as to the extent to which these teachers have completed enough of their preparation program to be effective in their classrooms. Similar to the degree variables, this analysis focused on in-field teaching. Therefore, although many teachers held certifications in a variety of content areas and across several grade spans, those distinctions were not captured in this analysis.

Degree + certification in a content area or in special education. Using the degree and certification variables, this variable identified those individuals in the SASS:08 dataset who held both a degree and certification in their respective content area or in special education.

Classification of School Settings

To answer the research questions, teachers needed to be classified by the type of school in which they provided instruction. Using questions on the SQ, schools were classified as regular, special education, or alternative school settings based on information provided by a school representative (e.g., principal, administrative staff member). The category “regular schools” included schools that indicated being a regular school and special program emphasis schools (i.e., schools with particular emphasis, such as a “math or science school, performing arts school, talented or gifted school, foreign language immersion school”; NCES, 2007a, p. 5). With appropriate sampling weights applied, this category included 82,200 schools, or 91.6% of the full sample. “Special education schools” were defined by NCES (2007a) as those that largely educate students with disabilities; this category included 1,597 schools, or 1.8% of the full sample.

NCES (2007a) defined “alternative/other school” as one that “offers a curriculum designed to provide alternative or nontraditional education; does not specifically fall into the categories of regular, special program emphasis, special education, or alternative school” (p. 5). With the sampling weights applied, alternative schools accounted for 6.7% of the sampled schools in SASS:08 (n = 5,978). However, respondents’ descriptions suggested that schools in this category varied in their enrollment and purpose. For instance, a number of schools identified themselves as dual language/immersion programs, magnet schools for high-achieving students, charter schools, or combination programs for high- and low-achieving students. Therefore, two additional steps were taken. First, only schools that indicated exclusively serving students “who have been suspended or expelled, who have dropped out, or who have been referred for behavioral or adjustment problems” were included (NCES, 2007a, p. 6). Next, individual descriptions of schools that did not indicate this as a characteristic of their school were individually evaluated, adding 1,117 schools to the sample. Altogether, 3,834 schools, or 4.3% of the research sample, met the definition for this analysis. Schools in this category included those for students considered at risk, day or residential treatment schools, juvenile correctional schools, night schools, psychiatric hospital schools, and credit recovery schools.

Analytic Approach

Two-way contingency tables allowed comparison of the preparation and qualifications of secondary content and special education teachers in exclusionary school settings. The follow-up tests of statistical significance (χ²) were analyzed, as well as the Cramer’s V statistic (Blaikie, 2003). For Cramer’s V, .5 or above is considered a strong association, .1 to .3 is considered a moderate association, and 0 to .1 is considered a weak or negligible association (Green & Salkind, 2005). Sampling weights, applied to account for the complex sampling procedures used by NCES, permitted the analysis to be considered nationally representative.

Results

Qualifications and Preparation of Secondary Content and Special Education Teachers

Research Question 1 investigated the preparation and qualifications of teachers across school types using a variety of teacher input measures (see Table 1). Only the variable for degree status had a statistically significant relationship with school setting. In regular and special education schools,
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Research Question 2 investigated the relationship between school type and whether a teacher held a degree and/or certification in their main teaching assignment (see Table 2). A statistically significant relationship between school setting and holding a degree in the content area existed only among secondary science teachers, Pearson $\chi^2(2, N = 655) = 11.28, p < .01$. Science teachers in the regular school more often held a degree in science (71%) than their colleagues in special education (14%) and alternative schools (61%). Furthermore, the Cramer’s $V$ statistic indicated a moderate relationship. At the same time, no statistical significance among any content area existed when inspecting the relationship between holding a degree in secondary education and the school setting. After combining content area degree with a secondary education degree, a statistically significant relationship emerged between ELA teachers and school setting. That is, nearly three fourths of ELA teachers in regular schools held either a degree in ELA or in secondary education, compared with 63% of ELA teachers in alternative schools and only 40% of ELA teachers in special education schools, Pearson $\chi^2(2, N = 1465) = 8.38, p < .05$. However, according to the Cramer’s $V$ statistic, this relationship was weak (.076) and should be interpreted cautiously.

In terms of certification, first the relationship between school type and whether a secondary content teacher held full certification in any subject area was analyzed. Statistically significant variations were noted among ELA teachers (see Table 2), Pearson $\chi^2(2, N = 935) = 13.33, p < .01$. The percentage of secondary ELA teachers with certification in some area in regular and alternative schools (90%-93%) was more than double the percentage in special education schools (41.7%), a relationship nearing the moderate range (Cramer’s $V = .096$).

When accounting for whether the teacher held certification in their assigned content area, a statistically significant relationship was noted between content certification and school type for only two content areas (see Table 2). More than 80% of science teachers in regular and alternative schools held science certification, compared with 38% of science teachers in special education schools, Pearson $\chi^2(2, N = 935) = 10.38, p < .01$. In social studies, more than three fourths of teachers in both regular and alternative schools held social studies...
certification, compared with fewer than half of social studies teachers in special education schools, Pearson $\chi^2(2, N = 990) = 6.71, p < .05$. Similar to previous analyses, caution should be exercised, given that these relationships fell within the weak to moderate range (Cramer’s $V = .082, .11$).

### Certification in Special Education Among Regular and Exclusionary Settings

Research Question 3 investigated the extent to which secondary content and special education teachers in special education and alternative schools were prepared to meet the individual needs of their students, compared with their colleagues in regular schools. To do this, certification and/or a degree in special education served as a proxy for the qualifications and preparation necessary to provide specialized, individualized instruction (see Table 3). Among special education teachers, no statistically significant relationship with school type was identified for degree and/or certification in special education. However, across all content areas, a statistically significant relationship was noted between the school type and possessing certification and/or a degree in special education. For instance, half of ELA teachers in special education schools had a degree in special education compared with only 10% of ELA teachers in regular schools and only 22% of ELA teachers in alternative schools, Pearson $\chi^2(2, N = 1450) = 25.20, p < .001$. Similarly, more than 60% of science teachers in special education schools held certification in special education, compared with less than 2% of teachers in other schools, Pearson $\chi^2(2, N = 935) = 127.32, p < .001$. The majority of the Cramer’s $V$ statistics demonstrated a moderate relationship (.095–.37).

### Discussion

#### Teacher Qualifications and Preparation Even Across School Settings

Based on a range of teacher input variables, secondary teachers surveyed in SASS:08 from exclusionary school settings were as qualified and as prepared as their colleagues in regular schools, including years of experience, amount of preparation, and completing an AC program.
Only degree status had statistical significance, where the majority of teachers in alternative schools held only a bachelor’s degree (57%). In contrast, the majority of teachers in regular (55%) and special education schools (61%) held a master’s degree. This could be indicative of a reliance on novice teachers in alternative schools. However, the lack of statistical significance based on experience does not support this theory. Alternatively, it may suggest that alternative schools were left to select lesser prepared teachers in terms of degree status from a pool of applicants.

Secondary Content Preparation Inadequate Across All School Settings

Analysis of degree and/or certification in a content area identified limited and sporadic statistical significance among secondary content teachers (see Table 2). For the most part, it revealed positive findings: Content teachers appeared prepared to provide instruction in their specialty area, regardless of school setting. However, variations existed among content areas. For instance, regular and alternative school science teachers were much more likely to have a degree and certification in science (61%–71% had a degree in science; 82%–83% held certification in science), compared with science teachers in special education schools (14% had a degree in science; 38% held certification in science). Similarly, ELA teachers in regular and alternative schools were much more likely to hold a degree in secondary education or ELA (74% and 63%, respectively) than ELA teachers in special education schools (42%). With regard to certification, statistically significant differences were found among ELA teachers in terms of holding any certification, but not for certification in their main content area.

Regardless of statistical significance, the acknowledgment of the limited number of content area teachers in the SASS:08 in any school setting that held a degree and/or certification in their content area is disconcerting. For example, only 56% of math teachers in regular schools had a degree in math. Yet, nearly 80% of the math teachers in regular schools held math certification. Regardless of the content area or the school setting, many more teachers held certification in their content area than held a degree in that area. In light of questions raised regarding the rigor of the certification process in many states (Goldrick et al., 2014; Steinbrecher et al., 2013), these findings warrant concern and additional research.

Special Education Preparation Limited Regardless of Position and School Setting

Secondary content teachers. The majority of students with disabilities spend more than 80% of their school day included within the regular education classroom, presumably receiving their core content instruction alongside their nondisabled peers with a content area teacher (U.S. Education Department, 2013).
Department of Education, Office of Special Education and Rehabilitative Services, 2015). Therefore, regardless of setting, it seems warranted that secondary content teachers should be prepared to provide instruction to students with disabilities. Moreover, in exclusionary school settings, where students with the most challenging learning and behavior needs are often placed, special education preparation would prepare a content teacher to meet the substantial academic, behavioral, and social needs of students enrolled. Yet, while the results at first appear positive (i.e., teacher sorting leads students with disabilities in special education schools to have statistically significantly more content teachers with special education degrees and/or certification), closer analysis of the limited number of content teachers in any school setting with a degree and/or certification in special education is disconcerting. In fact, within the SASS:08 dataset, less than 10% of content teachers in regular schools held a degree and/or certification in special education. In alternative schools, less than one fourth of content teachers held a degree and/or certification in special education. Even in special education schools, where content area teachers were statistically significantly more likely to have a degree and/or certification in special education, fewer than half of the content teachers held a degree and certification in special education.

These findings have a number of practical and policy-relevant implications. Similar to Research Question 2, more teachers held certification than a degree, raising questions regarding the rigor of the certification process. At the same time, the limited number of content teachers with special education degrees reveals what is missing from many teacher preparation programs: dual certification programs at the secondary level. Although dual preparation programs have flourished at the elementary level, secondary programs have lagged behind (Blanton & Pugach, 2011). As the impact of a disability on student behavior and learning will often persist or may even become more pronounced over time, focusing on the preparation of secondary teachers to provide specialized instruction in both regular and exclusionary schools is urgent (Cortiella & Horowitz, 2014; Nelson, Benner, Lane, & Smith, 2004). Theoretically, collaboration, mutual planning time, and shared responsibilities among special and general educators should help to meet the needs of students placed in classrooms with general educators with limited preparation in special education. However, emerging research evidence on working conditions suggests this does not happen (Bettini, Crockett, Brownell, & Merrill, 2016; Fall & Billingsley, 2011).

**Special education teachers.** Among special education teachers, no statistically significant differences emerged between school setting with degrees and/or certification in special education. Closer analysis of the extent to which special education teachers held a degree in special education reveals dismaying findings. Across all three settings, 25% to 35% of special education teachers did not hold a degree in special education, while nearly all special educators in regular and special education schools held certification (94%). This aligns with federal reports that suggest only 5% of special educators do not meet HQT standards (U.S. Department of Education, Office of Special Education and Rehabilitative Services, 2015). However, in light of questionable certification processes across states, questions can be raised regarding expertise of a special education teacher who holds certification, but not a degree. Although not statistically significant in terms of variation between school settings, the finding that one third of special education teachers in alternative schools do not have a degree in special education echoes concerns raised by other researchers (Gagnon & Barber, 2010; Houchins et al., 2009; Kurz et al., 2014; Maccioc & Gagnon, 2002). Although little research exists that identifies how to best prepare teachers specifically for an alternative school setting, training in research-based instruction and instructional adaptations, positive and proactive approaches to behavior intervention, and use of formative and summative assessment, all courses typically found in special education preparation programs, would be relevant. Without such training, it seems unlikely that special education teachers in these schools will be prepared to implement the evidence-based practices necessary to meet the substantial academic, behavioral, and social needs of students.

**Limitations**

This study identified that teacher sorting among regular and exclusionary schools may not be the sole problem. Rather, the problem may rest in an overall shortfall of secondary teachers prepared in both their content and in special education. In special education and alternative schools, this may signal an insufficient supply of teachers prepared to teach challenging students with and without disabilities and to provide the specialized instruction and supports required for the students served in these schools. However, a number of limitations hinder the generalizability of the findings. For instance, although SASS is considered a nationally representative dataset, there were relatively small numbers of secondary teachers in special education schools and alternative schools in the SASS:08 who identified themselves as content teachers. Moreover, there are limitations due to the reliance on teacher input measures (e.g., years of experience, degrees, certification) as indicators of teacher “quality” or “effectiveness.” Although this analysis replicated measures commonly applied in investigations of teacher sorting (Clotfelter et al., 2006; Goldhaber et al., 2014; Lankford et al., 2002) and the supply of special educators (Boe et al., 2007; Mason-Williams, 2015), additional research that includes defined outcome measures for
students, along with teacher input data, is necessary to begin to disentangle the relationship between teacher preparation and qualifications and student achievement. Similarly, research on variations in the qualifications held by special educators after accounting for additional school factors, such as proximity to a university or the “urbanicity” of a school (i.e., urban or rural), could provide useful information for researchers, administrators, and policy makers.

In special education, students with disabilities work toward a vast array of academic, behavioral, functional, and social skill goals. While the majority of students with disabilities work toward achieving the “regular” state standards (e.g., Common Core State Standards), approximately 3% to 17% participate in their states’ alternate achievement standards (Thurlow & Vang, 2014). However, the data collected for SASS do not provide information about which set of standards the teachers address in their classrooms, even for special educators or in special education or alternative schools. Additional research on the relationship between content preparation and background with teaching to alternate achievement standards would address this gap in our knowledge.

**Recommendations**

A number of practical and policy-relevant recommendations arise from the findings. For instance, the finding that 30% to 40% of special educators in all three settings lacked both certification and a degree in special education is cause for significant concern. In exclusionary school settings, where students present a combination of academic, behavioral, or social challenges, special education preparation can help teachers provide the specialized programs the students require, even for students not identified with a disability. Just as alarming, less than one fourth of secondary content teachers in alternative schools and fewer than 10% of teachers in regular schools held a degree and/or certification in special education. On a practical level, this provides a significant opportunity for teacher preparation programs seeking to increase their enrollment by offering secondary-level, dual, or add-on certificate programs. This ostensibly would also improve the ability of preservice teachers to meet the needs of students with disabilities included in general education classrooms.

In light of the low number of teachers in exclusionary settings prepared to teach students with disabilities or other academic, behavioral, or social challenges, states and districts need to work together to develop targeted initiatives aimed at providing mentorship and support to teachers in special education and alternative schools. For instance, a number of researchers have called for increased, targeted professional development in exclusionary settings (Gagnon & Barber, 2015; Houchins et al., 2009; Maccini & Gagnon, 2002). To be effective, the professional development must be tailored to the specific needs of the teachers and the characteristics of the students with whom they work. Similarly, for induction programs to be effective, novice teachers should be matched with mentors who hold similar positions and have had to negotiate similar roles (Youngs et al., 2011). At the same time, it seems clear than many of the special education teachers in all three settings, but especially in alternative schools, may have limited exposure to special education policies and evidence-based practices, and may require instruction on (a) the basic provisions within IDEA and (b) how to effectively use an IEP and other individualized plans, such as functional behavior analyses (FBAs) and behavior intervention plans (BIPs). Partnerships between local colleges or colleges with online programs is one avenue to promote the much-needed professional development of teachers who enter these classrooms lacking the necessary preparation.

**Conclusion**

This study analyzed teacher sorting among secondary content and special education teachers in regular and exclusionary settings. Using data from the SASS:08 dataset, the results indicated that secondary teachers, particularly those in exclusionary settings, lack content area preparation. This may have a significant impact on the outcomes of students educated in these schools. Moreover, the significant shortfall of certified, prepared special educators across all three settings warrants additional attention and consideration in both policy and practice.

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**References**


