Availability of Special Education Teachers

Trends and Issues

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ABSTRACT

A national shortage of fully certified special education teachers has been a persistent concern over the years. The purpose of this study was to examine teacher availability by analyzing data from the annual reports to Congress over a 10-year period. Findings indicate (a) that there is a nationwide shortage of teachers who are qualified to teach across all disabilities, including a particularly disproportionate shortage in the area of emotional and behavioral disorders, and (b) that there has been a dramatic decrease in the teacher shortage rate, beginning in the 1993–1994 year and continuing in subsequent years. Possible explanations for this decrease may be the expanded reliance on the proliferation of alternate or emergency certification, inclusionary practices, personnel preparation training grants, and noncategorical certification. In the short run, alternate or emergency certification routes may decrease the shortage of special education teachers; however, we caution against the use of these routes to teacher certification, if they become an institutionalized alternative to a comprehensive teacher education program.

IN AN EFFORT TO IMPROVE EDUCATIONAL OUTCOMES, Congress passed the 1997 amendments to the Individuals with Disabilities Education Act (IDEA), emphasizing the need to (a) include students with disabilities in state reform efforts, (b) expand the availability of special education classrooms, (c) foster research-validated instructional and behavioral interventions, and (d) support quality, intensive professional development for personnel involved with special education and related services. Availability of qualified personnel, however, has been a persistent challenge as public schools face severe teacher shortages, especially in critical areas such as the sciences and special education. According to the 20th annual report to Congress on the implementation of IDEA, teacher shortages in special education reflect both a quantity shortage of teachers (i.e., a shortage in the number of individuals who are available to fill positions) and/or a quality shortage of teachers (i.e., a shortage in the number of teachers who are fully certified for their positions and available to fill vacant teaching positions; U.S. Department of Education, 1991–2001).

Indeed, data from various sources, including the U.S. Department of Education, reflect an alarming national shortage of fully certified special education teachers (Boe, Bobbitt, Cook, Barkanic, & Maislin, 1998; Boe, Cook, Bobbitt, & Terhanian, 1998; Smith-Davis & Billingsley, 1993). Bergert and Burnette (2001) suggested that 98% of school districts report such shortages; 33,000 special education positions are filled by teachers not fully certified, and 4,000 positions remain vacant. These shortages are primarily the result of a higher demand in special education (as opposed to general education) and a significantly low annual supply of new graduates trained in special education. In addition, a much higher percentage of special education graduates were already employed as teachers in their respective field upon graduation than were graduates trained in general education (37% vs. 18%, respectively; Boe, Bobbitt, Cook, & Weber, 1996). As a result, more than 50% of schools with vacancies in special education in 1994, for example, experienced difficulty filling these positions (Darling-Hammond, 1997). Rural schools are especially challenged in recruiting and retaining qualified personnel in every aspect of special education delivery (Ludlow, 1998).

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Attrition rates among special education teachers have also been problematic. Reports from various states indicate that special education teachers leave special education teaching positions at disproportionally higher rates than their peers in general education. For example, in the 1995–1996 school year, attrition rates in Wisconsin were 6.5% for general education teachers and 8.4% for special education teachers (Lauritzen, 1997), and there was an average annual attrition rate for special educators of 24.2% in California (Pyecha & Levine, 1995) and 8.9% in Kansas (McKnab, 1995). Nationally, data from the 1987–1988 and 1990–1991 *Schools and Staffing Survey* (SASS; Boe, Cook, Bobbit, & Weber, 1996) and the 1990–1991 and 1991–1992 *Teacher Follow-up Survey* (TFS; Boe, Cook, et al., 1996), indicate that retention rates of special education teachers in specific assignments from year to year were substantially lower than those of general education teachers, and attrition rates for special education teachers were 13%, versus 9% for general education teachers (Boe, Cook, et al., 1996). According to a 13-year longitudinal study intended to examine special educators' careers, new teachers of students with disabilities are most likely to leave early in their careers and "young teachers are nearly twice as likely as mature teachers to leave" (Singer, 1993a, p. 268; see also Huling, Resta, & Rainwater, 2001).

These attrition rates confirm that some special education teachers leave special education positions in favor of general education assignments (Boe, Cook, et al., 1996; Pyecha & Levine, 1995). According to Gonzalez (1995), factors that influence attrition include professional qualifications; work conditions; and lack of administrative, collegial, and parental support. Also, McKnab (1995) reported that in Kansas, small districts had higher attrition rates than large districts, and urban districts had slightly higher attrition rates than rural districts. Further, teachers and paraeducators of students with emotional and behavioral disorders (EBD) were more likely to seek reassignment or leave their positions (Knitzer, Steinberg, & Fleisch, 1990; Singer, 1993b).

To address these shortages, state departments of education have initiated a variety of certification-related initiatives, such as more noncategorical certification options, multiple routes to initial certification, and provisions for emergency certification (Piercy & Bowen, 1993). IDEA also allows states to

> recruit and hire appropriately and adequately trained personnel to provide special education and related services to children with disabilities, including, in a geographic area of the state where there is a shortage of such personnel, the most qualified individuals available who are making satisfactory progress toward completing applicable course work necessary to meet standards. (20 U.S.C. 1412 (a) (15) (C))

The purpose of this study was to examine trends in teacher availability in special education by analyzing data from the annual reports to Congress (U.S. Department of Education, 1991–2001) over an 11-year period (from 1988–1989 to 1998–1999, inclusive), with a specific emphasis on regional and disability-specific trends.

Method

Data Source

Data were drawn from the annual reports to Congress on the implementation of IDEA (U.S. Department of Education, 1991–2001), covering the 11-year period from 1988–1989 to 1998–1999. The annual reports contain aggregated data about the special education teaching force listed by states. Based on the purpose of the current investigation, only data about teachers were drawn. The types of data reported in the annual reports vary from year to year. In the period from 1988–1989 to 1992–1993, numbers of teachers employed and numbers of vacant positions were reported in the "all disabilities" category and specific disability categories. These data were expanded to include certification information from 1993–1994 to 1995–1996. However, starting from the 1996–1997 school year, data about specific disability categories were no longer reported. In the 1998–1999 school year, only the total number of teachers and certification information were reported. Data for the current investigation reflected these differences. In addition, because of the focus of the current investigation, categorical data about teachers of students identified as EBD, learning disabled (LD), and mentally retarded (MR) were included and separately listed in the data set for analyses. Specific types of data extracted are summarized in Table 1.

Data Entry and Analysis

The original data from the annual reports were entered into an SPSS (Statistical Package for Social Science) file. These data included 126 variables and 51 cases (50 states and the District of Columbia). Subsequent data transformations, using the compute procedure, were completed to calculate teacher shortage rates (no. of vacant position/no. of needed × 100), percentages of teachers who were fully certified (no. of certified teachers/total no. of teachers × 100), and percentages of retained teachers who were certified (no. of retained and certified teachers/total no. of retained teachers × 100) or not certified (no. of retained but not certified teachers/total no. of retained teachers × 100). These percentage rates were calculated from each of the 51 cases. These calculations resulted in 69 new variables (percentages), which were used in subsequent data analyses.

For the purpose of examining regional differences, the 51 cases (50 states and the District of Columbia) were divided into four regions according to a classification system established by the U.S. Bureau of the Census (2001). The four regions were Northeast (CT, ME, MA, NH, NJ, NY, PA, RI, and VT), Midwest (IL, IN, IA, KS, MI, MN, MO, ND,

TABLE 1. A Summary of Teacher Data Extracted from the Annual Report

School years	Employed & certified[a]	Needed/employed, noncertified[b]	Certified & retained	Noncertified & retained	Vacant positions
1988–1989 to 1992–1993	Employed: All disabilities	Needed: All disabilities	n/a	n/a	n/a
1993–1994 to 1995–1996	Employed & certified: All disabilities	Employed, noncertified: All disabilities	Certified & retained: All disabilities	Noncertified and retained: All disabilities	n/a
1996–1997 to 1997–1998	Employed and certified: All disabilities	Employed, noncertified: All disabilities	Certified & retained: All disabilities	Noncertified & retained: All disabilities	Vacant positions: All disabilities
1998–1999	Employed and certified: All disabilities	Employed, noncertified: All disabilities	n/a	n/a	n/a

Note. *All disabilities* refers to emotional and behavioral disorder, learning disability, and mental retardation.
[a]Certification information was included after 1993. [b]Employed, not certified was included after 1993.

NE, OH, SD, and WI), South (AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, and WV), and West (AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, and WY).

Two types of data analyses were conducted. First, means of teacher shortage rates and teacher certification rates across the states were calculated. To compare rates among the four disability categories (all disabilities, EBD, LD, and MR), rates were calculated separately in each disability category. Second, two sets of repeated-measure ANOVAs were conducted to examine differences among the four regions regarding teacher shortage and teacher certification. In the fist repeated-measure ANOVA, the dependent variable was teacher shortage rate, the independent variable was region, and the repeated factor was school years (from 1988–1989 to 1997–1998). In the second repeated ANOVA, the dependent variable was teacher certification rate, the independent variable was region, and the repeated factor was school years (1988–1989 to 1997–1998).

Results

Teacher Shortage

Table 2 summarizes the nationwide data regarding teacher shortage rates in four categories: all disabilities, LD, MR, and EBD. Data in the category of all disabilities indicated a decreasing trend, from 8.78% in 1988–1989 to 1.36% in 1997–1998. The decrease was dramatic in the 1993–1994 school year—6.29% to 1.36%. Data in the LD category reflected a general decreasing trend with a major fluctuation. It seems that there were more positions unfilled in the LD categories in the 1991–1992 and 1992–1993 school years. In the 1993–1994 school year, the shortage rate suddenly decreased from 9.7% to 1.01%. Data in the MR and EBD categories indicate a similar trend, though the fluctuation was less dramatic. A quick comparison of data in the three specific disability categories indicated that the highest percentages of unfilled positions were in the EBD category, followed by the LD category. The MR category had the lowest percentage of unfilled positions.

Teacher Certification

Table 3 contains summary data in terms of employed teachers who were fully certified in the 6-year period when this information was included in the annual reports. As indicated in Table 3, percentages of teachers who were certified were in the low 90s, ranging from 91.57% to 93.64% in the category of all disabilities, with a minor fluctuation in the trend. Fewer teachers were fully certified in the EBD category than in the LD and MR categories. Percentages of retained teachers who were and were not fully certified are listed in Table 4. The certified teacher rate ranged from 93.59% in the 1996–1997 school year to 95.05% in the 1995–1996 school year.

Regional Comparisons

Repeated-measure ANOVAs were conducted to compare regional differences on teacher shortage rate and teacher certification rate over the 11 years. Statistically significant differences were detected in the teacher shortage rate (F = 146, $p < .01$). The difference was between the West and the Northeast, with a mean difference of 2.33 and a significant level of .035. This indicated that significantly more teacher positions were not filled in the West than in Northeast.

TABLE 2. Average Percentages of Teacher Shortages From 1988–1989 to 1998–1999

School year	All disabilities	LD	MR	EBD
1988–1989	8.78	6.97	6.03	13.59
1989–1990	8.86	6.97	5.38	12.18
1990–1991	7.41	6.70	5.32	10.43
1991–1992	6.89	8.31	8.09	11.90
1992–1993	6.29	9.70	7.73	13.82
1993–1994	1.49	1.01	0.98	2.38
1994–1995	1.29	1.17	1.15	2.12
1995–1996	1.14	0.87	1.02	1.95
1996–1997	1.71	—	—	—
1997–1998	1.36	—	—	—
1998–1999	—	—	—	—

Note. The percentages are averages of the 50 states and the District of Columbia. This type of data for the 1998–1999 school year was not reported in the 2001 report. LD = learning disability; MR = mental retardation; EBD = emotional/behavioral disorder. Dashes indicate that data were not reported in the annual reports.

TABLE 3. Percentages of Employed Teachers Who Were Fully Certified From 1993–1994 to 1998–1999

School year	All disabilities	EBD	LD	MR
1993–1994	93.64	88.67	92.44	93.86
1994–1995	92.96	88.30	92.88	92.75
1995–1996	93.11	86.84	91.99	90.58
1996–1997	91.57	—	—	—
1997–1998	93.20	—	—	—
1998–1999	91.58	—	—	—

Note. EBD = emotional/behavioral disorder; LD = learning disability; MR = mental retardation. Dashes indicate that data were not reported in the annual reports.

Discussion

The results of the present survey revealed a number of interesting findings regarding teacher shortages. First, not surprisingly, there is a nationwide shortage of teachers who are qualified to teach across all disabilities, including learning disabilities, mental retardation, and emotional and behavioral disorders. The teacher shortage in the area of EBD is particularly significant in comparison to the other areas. Despite the nationwide shortage of qualified teachers, the teacher shortage rate is decreasing, and, as illustrated in Tables 3 and 4, a high percentage of employed teachers are fully certified; nonetheless, we are not optimistic that teacher shortages will diminish. Growing school enrollment and rising rates of teacher retirements will further increase the existing teacher shortage. At the same time, colleges and universities are not preparing enough trained professionals to fill the continuing gap (Bergert & Burnette, 2001).

As the data indicated, a dramatic decrease in the teacher shortage rate occurred in the 1993–1994 school year. There are several factors that may contribute to these findings. One influential factor may be the expanding use of alternate and/or emergency certification in special education (Hare, Nathan, Darland, & Laine, 2000; Stoddart & Floden, 1995). The term *alternative teacher certification* refers to several teaching certification paths, including emergency certification and specialized programs for individuals who already at least have a bachelor's degree, have considerable life experiences, and want to become teachers (National Center for Education Information, 2002). Alternative teacher certification programs include recruitment and transition of military personnel, recent graduates of liberal arts programs, individuals who are changing careers, and returning Peace Corps volunteers (Hare et al., 2000; Stoddart & Floden, 1995).

In 2002, 45 states plus the District of Columbia, reported having some type of alternative teacher certification

TABLE 4. Percentages of Retained Teachers Who Were and Were Not Fully Certified From 1993–1994 to 1998–1999

School year	Fully certified	Not fully certified
1993-1994	94.88	5.12
1994-1995	94.72	5.28
1995-1996	95.05	4.95
1996-1997	93.59	6.41
1997-1998	94.75	5.25
1998-1999	—	—

Note. Dashes indicate that data were not reported in the annual reports.

program, whereas only 8 states said they had an alternative route to teaching in 1983. In each of the last 3 years, approximately 25,000 teachers were certified through alternative certification, which represents about one third of the estimated 75,000 new teachers being hired (The National Center for Education Information, 2002). Teachers with alternative certification address some general key concerns regarding teacher shortages. Specifically, according to the National Center for Education Information (2002), results from a 1998 survey of Troops To Teachers (TTT) indicated that 24% of TTT teachers teach in an inner-city school. Thirty-nine percent of them also indicated willingness to teach in an inner-city, and 68% were willing to teach in a rural community; in contrast, only 16% of public school teachers at the time expressed willingness to teach in inner cities and 23% taught in rural areas. Further, teachers with alternative certification are likely to be older, minorities, and men with degrees in fields other than education. These teachers are more to likely to remain in teaching than new teachers from traditional college-based programs.

About 7% of current special education teachers earned their certification through an alternative route, compared to 4.5% of general education teachers. Only 63% of first-year teachers hold certification for their main assignments. Of the beginning teachers who do not hold certification for their main assignments, 5% are certified out of field, 20% hold emergency certificates, and 4% do not hold any teaching certificate (Office of Special Education Programs [OSEP], 2002a). Piercy and Bowen (1993) also reported that at least 43 of the 50 states and the District of Columbia (84%) had some type of emergency certification program available for special education teachers.

Certifying teachers via emergency licenses or alternative certification programs, however, has been severely criticized (Martinez & Hallahan, 1999–2000). The requirements and qualifications of teachers obtaining an emergency alternative certification are far less rigorous than traditional teacher certification programs; therefore, emergency certification is perceived as an assault to professionalism; a contributor to teacher shortages; and a barrier to building a quality, stable workforce (Miller, Brownell, & Smith, 1999; Simpson, Whelan, & Zabel, 1993). Further, Nougaret (2002) reported that the performance of fully licensed teachers was superior to the performance of provisionally licensed first-year teachers. Effect sizes between licensed and provisionally licensed teachers were in the 1.5 to 1.6 range. For instance, the lowest fully licensed first-year teachers functioned similarly to the highest provisionally licensed first-year teachers.

Another factor contributing to the decreased demand for special education teachers may be the trend toward inclusion. More students educated in less restrictive environments possibly means larger teacher loads and consequently the need for fewer teachers. From 1988–1989 to 1998–1999, the percentage of students with all disabilities receiving services in separate settings (i.e., special classes, special schools, residential facilities, and home-hospital settings) decreased from 30% to 24%. In contrast, students with EBD not only find themselves in more restrictive settings but also are more likely to receive services from noncertified teachers. From 1988–1989 to 1998–1999, the percentage of students with emotional and behavioral disorders receiving services in separate settings decreased from 56% to 51%. In 1998–1999, 33% of the students with EBD received services in special classes, compared to 20% of all students with disabilities. Moreover, 3.59% of students with EBD received services in residential settings, compared to .68% of all students with disabilities (U.S. Department of Education, 1991–2001).

The shortage of qualified teachers working with students with EBD warrants specific attention, as shortages in this field have consistently been more severe in comparison to other disability areas. Twelve percent of teachers of students with EBD earned their certifications through an alternative route (OSEP, 2002a). Indeed, more teachers of students with EBD enter through alternative certification programs (27%) than do other beginning teachers (10%). Further, more than half of beginning teachers in EBD are not fully certified for their positions—11% are certified out of field, 39% hold an emergency certificate, and 1% do not hold any teaching certificate (OSEP, 2002c).

In addition, IDEA's focus on the provision of training grants to institutions of higher education may be a third factor that contributed on a smaller scale to the decrease of the teacher shortage in special education. One component of IDEA specifically provides funding to institutions of higher education to target critical teacher shortage areas. As a result, personnel preparation grants have been awarded to institutions of higher education that apply for funds in critical teacher shortage areas. Although personnel preparation funds have been awarded, it is unclear whether these funds have significantly affected the shortage of special education teachers. In addition, given the shortage of special education faculty, which limits the capacity of institutions of higher education to prepare teachers, this decreasing trend may not continue (Smith, 2001). University programs prepare approximately 22,000

special education teachers annually, which is about half the number needed to fill the vacancies. At the same time, universities are faced with shortages of special education faculty, with 30% of faculty vacancies going unfilled every year (President's Commission on Excellence in Special Education, 2002).

Finally, a shift toward noncategorical teacher certification may have decreased the need for teachers certified to teach in specific disability categories. Over the past 30 years, states have increased their use of noncategorical teacher certification in addition to continuing to offer categorical certification (Geiger, Crutchfield, & Mainzer, 2002). In addition, many states offer a multicategorical certification that is specialized according to age/grade levels, as well as a "generalist" certification framework (Mainzer & Horvath, 2001). Geiger et al. (2002) reported that 27 states offer a general special education licensure: 22 states offer licensure in mental retardation, 23 states offer licensure in specific learning disabilities, and 21 states offer licensure in orthopedic impairment. A smaller number of states offer licensure in autism (five states) and other health impairment (three states). It is interesting to note that they report that 27 states offer licensure in emotional disturbance. The availability of noncategorical and multicategorical certification routes provides states with additional means for addressing their shortages of special education teachers (Mainzer & Horvath, 2001). As a result, the need for certified special education teachers may appear to be less critical.

It is important to remember that although there is a dramatic decrease in teacher shortages, there are still shortages. We believe that the shortages will continue to grow, critically affecting the services provided for students with disabilities. One overall reason the shortage may increase is the decreasing number of qualified professionals entering the field of special education and the increasing number of special education teachers who are beginning to retire and/or leave the field (Darling-Hammond, 1997; Perez, Swain, & Hartsough, 1997). Another more likely reason for the continued shortage is the growing number of students with disabilities. In 1999–2000, there were 5,683,707 students in special education ages 6 to 21 in the United States, a substantial increase from the 4,361,751 students in 1990–1991 (U.S. Department of Education, 1991–2001).

Practical Implications

Shortages of qualified teachers in general are likely to be acute in the future, as student enrollment is expected to peak in 2007, having already increased from 50 million in 1995 to 53 million in 2000 (U.S. Department of Education, 2000). With more than one third of the current teachers' having 20 years or more of service, a wave of retirements can be expected within the next decade, which will also add to the teacher shortage (National Center for Education Statistics, 1996). In addition, teacher attrition continues to be a problem. In general, it is estimated that 30% of teachers leave the profession during their first 2 years in the classroom (Darling-Hammond, 1997; Perez, Swain, & Hartsough, 1997). In Texas, for instance, 43% of the teachers who began teaching in the fall of 1996 had left their teaching careers by the fall of 1999 (Huling et al., 2001). To overcome the current and forecasted shortage problems, states will have to find alternative ways to hire qualified teachers. Alternative teacher certification programs, such as recruitment and transition of military personnel, recent graduates of liberal arts programs, individuals who are changing careers, and returning peace corps volunteers (Hare et al., 2000; Stoddart & Floden, 1995), will probably continue to be used.

We suggest that states use caution when hiring teachers who are not fully certified or who are alternatively certified because the quality of these teachers may be an issue. We encourage school districts to develop policies and practices that require these teachers to engage in stringent professional development activities and inservice training in order to fully develop their skills as competent teachers. A logical means for providing this training would be cooperative agreements between school districts and institutions of higher education within the state.

Limitations and Future Research

There are several limitations that should be considered when interpreting the results of this study. First, the present study reports data on only the quantity of teacher shortages, not the quality of the skills of the teachers. As Darling-Hammond (1997) suggested, when examining the issue of teacher shortages it is important to consider not only supply and demand but also the quality of teachers filling those positions. In addition, due to the nature of the delay in federal reporting procedures, data is only presented up to the 1998–1999 school year. With the reauthorization of IDEA in 1997 and the potential changes in teacher shortages resulting from that reauthorization, we suggest that readers exercise caution when examining the data from the present study.

There is also a need for further research in this area in order to accurately portray the issue of teacher shortages in special education. Such efforts should include the analysis of intra- and interstate teacher shortage data. Investigation of state practices may include factors such as state certification requirements (e.g., categorical vs. noncategorical, graduate vs. undergraduate routes to certification, number of credit hours in special education required for certification), availability of alternative certification options, use of emergency certification, availability and nature of state-level technical assistance regarding teacher inservice opportunities, and impact and trends of inclusion on the need for certified special education teachers. Further, in light of the increased popularity of alternative certification, additional studies are nec-

essary to examine the effectiveness of teachers who have undergone traditional preparation versus those who have undergone alternative programs. Nougaret (2002) established that first-year teachers with provisional certification are less effective. Studies that examine these teachers at the second and third year should be considered.

Conclusions

Findings from the present study indicate that there is a chronic shortage of special education teachers. Most recent reports indicate that in 1999–2000, 12,241 positions for special education teachers were left vacant or filled by substitutes. Of those special education teachers employed, 8% were not fully certified for their positions (OSEP, 2002b). One negative impact of teacher shortages in special education is unfilled positions and/or ineffective teachers (Hare et al., 2000). In addition, a critical shortage of qualified special education teachers may negatively affect the quality of services for students with disabilities (birth to 21 years old). However, when increasing the number of special education teachers, we need to examine the quality of the preparation of these individuals. In the short-term, alternate or emergency certification routes may decrease the shortage of special education teachers; however, we warn against implementing these routes to teacher certification if they become an institutionalized alternative to a comprehensive teacher education program (see Nougaret, 2002). Specifically, alternate forms of certification change the demographics of the teacher pool (Stoddart & Floden, 1995). As Stoddart and Floden (1995) stated, "Alternative certification laws permit those without college-based teacher preparation to gain [a] permanent teaching credential" (p. 1). In 1999–2000, 4.5% of general education teachers received alternative certification (7% of special education teachers). However, teachers who have been teaching less than 5 years received alternative certification at a higher rate (10%), indicating that alternative certification is increasingly becoming an important factor in teacher training (OSEP, 2002a). Although this approach may positively affect the shortage of special education teachers in the short run, the range and variability of such programs, along with the shortage of data-based studies regarding the effectiveness of teachers with alternative certification, leaves much to be questioned (Rosenberg & Sindelar, 2001). ■

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