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ABSTRACT

This study used existing databases to analyze, from a national perspective, the specific components of retention, transfer, and attrition of special education teachers (SETs) in comparison with general education teachers (GETs). The study used data from the 1990-1991 Schools and Staffing Survey (SASS) and the 1992 Teacher Followup Survey (TFS). Analysis evaluated the following factors: teaching field retention, teaching field transfer, attrition, school retention, school reassignment, district migration, district retention, district attrition, entering teachers, and private school migrants. Districts were categorized as either urban, suburban/large town, small town, or rural. Major conclusions included the following: (1) retention of SETs in specific assignments from one year to the next (89 percent) is significantly less than the retention of GETs in specific assignments (94 percent); (2) the lower percentage of retained SETs is due primarily to transfer of SETs to general education (5 percent); (3) intervention designed to improve the retention of SETs might most productively focus on the higher rate of teaching field transfer; (4) approximately the same percentage of SETs and GETs retained in the same teaching field transfer to different public schools each year, with the vast majority of both groups remaining in the district; (5) the retention of SETs and GETs in the same district from one year to the next is not a function of urbanicity; and (6) while the annual transfer of SETs to general education (about 14,600 teachers) is a major source of open positions, the annual transfer of GETs to special education (about 9,300 teachers) is a major source of supply. Appendices provide data tables and more information on the SASS and TFS surveys. (DB)

RETENTION, TRANSFER, AND ATTRITION OF SPECIAL AND GENERAL EDUCATION TEACHERS IN NATIONAL PERSPECTIVE[1]

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Special Education Teacher Satisfaction, Retention and Attrition

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Contents

Introduction

There has long been significant concern about securing and retaining a fully-qualified teaching force in special education. The concern has been fueled by reports of factors that create a sizable annual demand for new hires of special education teachers (SETs) to fill open positions, and reports of significantly less retention of SETs than of general education teachers (GETs). Factors commonly cited as responsible for a high annual demand for SETs are:

- A relatively high annual rate of attrition of SETs compared with GETs,
- A relatively high annual rate of transfer of SETs to general education compared with the transfer of GETs to special eduction,
- The relatively rapid expansion of teaching positions in special education compared with general education, and
- A shortage of fully-qualified SETs to fill open positions, which results in the hiring of many individuals of lesser qualifications--thereby leaving a continuing demand for fully-qualified teachers.

Until recently, it has been difficult to quantify the extent to which these factors contribute to the high annual demand for new hires in the field of special education nationwide because detailed national data have not been available. That has changed in recent years as information has become available from two surveys of the National Center for Education Statistics (NCES): the Schools and Staffing Survey (SASS), and its companion Teacher Followup Survey (TFS). The purpose of this report, therefore, is to use these new data sources to analyze, from a national perspective, the specific components of retention, transfer, and attrition of SETs in comparison with GETs. Better information should assist policy makers and administrators in designing more effective intervention strategies targeting teacher demand and shortage problems.

Method

Data Sources

The research reported here is based on two national data bases (SASS for 1990-91 and TFS for 1992) that include information on public school teachers and public schools. These data bases were derived from national probability samples. Therefore, SASS provides nationally representative estimates of the numbers and attributes of teachers in 1990-91, while TFS, a longitudinal component of SASS, likewise provides nationally representative estimates about position changes made by teachers from the 1990-91 school year to the next year. Using these data bases, it is possible to identify, from one year to the next, changes in teacher employment status in considerable detail. Additional information about SASS and TFS is provided in Appendix A.

The Teacher Sample

In keeping with the SASS definition, a teacher was any full-time or part-time teacher whose main assignment was teaching in any of grades K-12, including itinerant teachers and long-term substitutes. Excluded from this definition were short-term substitute teachers, student teachers, non-teaching specialists (e.g., counselor, librarian, school social worker, occupational therapist, and the like), administrators, teacher aides, and other professional or support staff.

All teachers were classified into two main teaching fields: special education and general education. SETs were defined as public school teachers (K-12) who indicated that their current main teaching assignment was in any one of a variety of teaching specializations within special education, while GETs were defined as all public school teachers (K-12) other than SETs. The sizes of the samples of SETs and GETs on which the analyses of this report were based are presented in Tables 1 through 4 of Appendix B. Additional information about the definition of teachers and the selection of the teacher sample is provided in Appendix A.

Design

The research was designed to analyze, from a national perspective, various retention, transfer, attrition, and supply components of the public education teaching force during 1990-91 and 1991-92 as a function of main teaching field (viz. special education and general education). The specific components of the teaching force analyzed are described below.

Teaching Field Retention. Teaching field retention refers to SETs and GETs in 1990-91 who continued in their respective main teaching fields during 1991-92.

Teaching Field Transfer (Switchers). Teaching field transfer refers to SETs who transferred from 1990-91 to 1991-92 to general education as their main teaching field, and GETs who similarly transferred to special education.

Attrition. SETs and GETs who were public school teachers in 1990-91, but who did not continue as public school teachers in 1991-92, constituted the attrition component. Included in the attrition component were public school teachers (K through 12) in 1990-91 who left to teach pre-kindergarten or to teach in a private school in 1991-92.[1]

School Retention. School retention refers to SETs and GETs in 1990-91 who both (a) continued in their respective main teaching fields in 1991-92, and (b) remained in their same school in 1991-92.

School Reassignment. School reassignment refers to SETs and GETs in 1990-91 who (a) continued in their respective main teaching fields in 1991-92, but (b) where reassigned (either voluntarily or involuntarily) to a different school in their home district in 1991-92.

District Migration. District migration refers to SETs and GETs in 1990-91 who (a) continued in their respective main teaching fields in 1991-92, but (b) migrated to a different district in 1991-92. District migration was subdivided into teachers who (a) migrated to a different school district within the same state, and (b) migrated to a school district in a different state.

District Retention. District retention refers to SETs and GETs in 1990-91 who both (a) continued in their respective main teaching fields in 1991-92, and (b) remained in the same district in 1991-92. This category combines the school retention and school reassignment components defined above.

District Attrition. District attrition refers to SETs and GETs in 1990-91 who (a) continued in their respective main teaching fields in 1991-92, but (b) left their home district in 1991-92. This category combines the district migration and attrition components defined above.

Entering Teachers. Entering teachers were defined as individuals who where not teaching in either public or private schools during 1990-91, and who commenced teaching in a public school during 1991-92. Entering teachers include both reentering experienced teachers and first-time teachers.

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[1]Since this report focuses on public school teachers, teacher transfers from public to private schools are classified as attrition from public schools. If transfers to private schools are not classified as attrition, lower attrition percentages are obtained (e.g., Bobbitt, Leich, Whitener, & Lynch, 1994).

Private School Migrants. Private school migrants were defined as individuals teaching in private schools during 1990-91, and who migrated to teaching positions in public schools during 1991-92.

The district retention and district attrition components of the teaching force were analyzed further according to school location stratified by four levels of the urbanicity variable, as described below[2]:

Urban. Central city of a standardized metropolitan area.

Suburban/Large Town. An urban fringe of a standardized metropolitan area, or towns with a population greater than 24,999 not located inside a standardized metropolitan area.

Small Town. A town with a population from 2,500 to 24,999 not located inside a standardized metropolitan area.

Rural. A place with fewer than 2,500, or a place designated as rural by the U.S. Bureau of Census.

Analysis Procedures

Based on the teacher followup sample sizes reported in Tables 1, 2, and 3, weighted national estimates of the numbers of teachers (as well as associated percentages and standard errors) were computed by procedures used by NCES for complex sample survey data (Kaufman & Huang, 1993). These national estimates are presented in the data tables of this paper and were used for statistical analyses testing for associations among variables. Because SASS and TFS data are subject to design effects due to stratification and clustering of the sample, standard errors were computed using the method of balanced repeated replications. Finally, chi-square tests of the statistical significance of differences between SETs and GETs were performed on the nationally estimated numbers of teachers, and were adjusted appropriately for average weights and for average design effects due to the structure of the sampling procedure.

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[2]See Gruber, Rohr, and Fondelier (1993, p. 147) for technical definitions of the levels of the urbanicity variable.

Results and Discussion[3]

Teaching Field Retention, Transfer, and Attrition

The results presented in Figure 1 provide information about SETs and GETs (a) who are retained in their main teaching field from one year to the next, (b) who transfer to the other teaching field, and (c) who leave public school teaching. As shown, 89% of SETs are retained as SETs from one year to the next. Of the 11% SETs that leave special education annually, 5% transfer to general education (i.e., switch teaching field) while 6% leave public school teaching (i.e., attrition). In contrast, only a very small percentage (0.4%) of GETs transfer to special education and about the same percentage of GETs as SETs (5% vs. 6%) leave the profession. Therefore, the difference between SET and GET retention (as of 1992) is due to the much higher rate of transfer between the two main teaching fields than to the small attrition difference.[4]

In numerical terms, an estimated 15,000 of 288,000 SETs transferred to general education, while an estimated 9,000 of 2,254,000 GETs transferred to special education (data from Table 1, Appendix B). The difference represents a net loss of 6,000 SETs to general education. When combined with the estimated 18,000 SETs who leave the profession each year, the annual net loss of SETs creates a large national demand for replacement teachers.

School Reassignment and Migration

Of the SETs and GETs who were retained in their main teaching field from 1990-91 to 1991-92, detailed information on the mobility of these groups within public education, i.e., school reassignment within home district, and migration to other districts (both in- and out-of-state) is presented in Figure 2. Figure 2 shows that 92% of SETs remain as teachers in the same school from one year to the next, while most of the rest (6%) accept reassignment to a different school in the same district. This represents 98% district retention of SETs retained in their field. Of the remainder, only 2% of SETs migrated to other districts in the same state,

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[3]Figures 1 through 4 are derived from Tables 1 through 4, respectively. The tables, which give more detailed information such as sample sizes and standard errors, are presented in Appendix B.

[4]Special and general education differed significantly in the percentages of teachers in the retention and transfer categories, $\chi^2(2, N = 4,737) = 69.02$, $p < .001$.

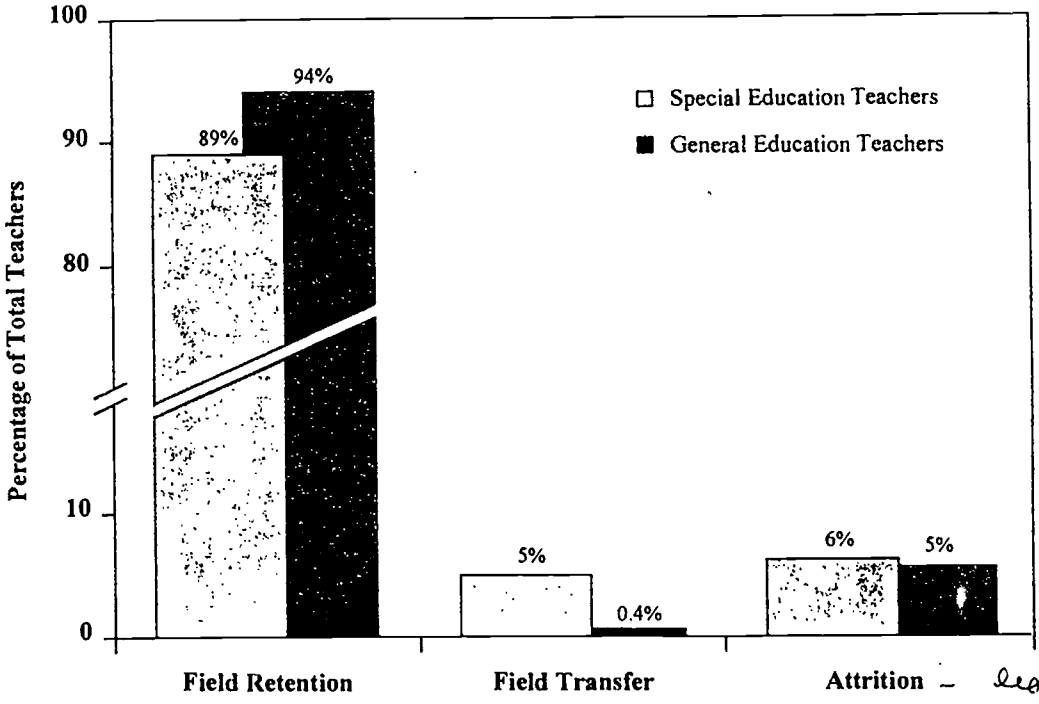

Figure 1. Teaching field retention, transfer, and attrition of public school teachers from 1990-91 to 1991-92 by main teaching field, as percentages of total special education teachers and total general education teachers in 1990-1991. Data Source: The Schools and Staffing Survey (1990-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics.

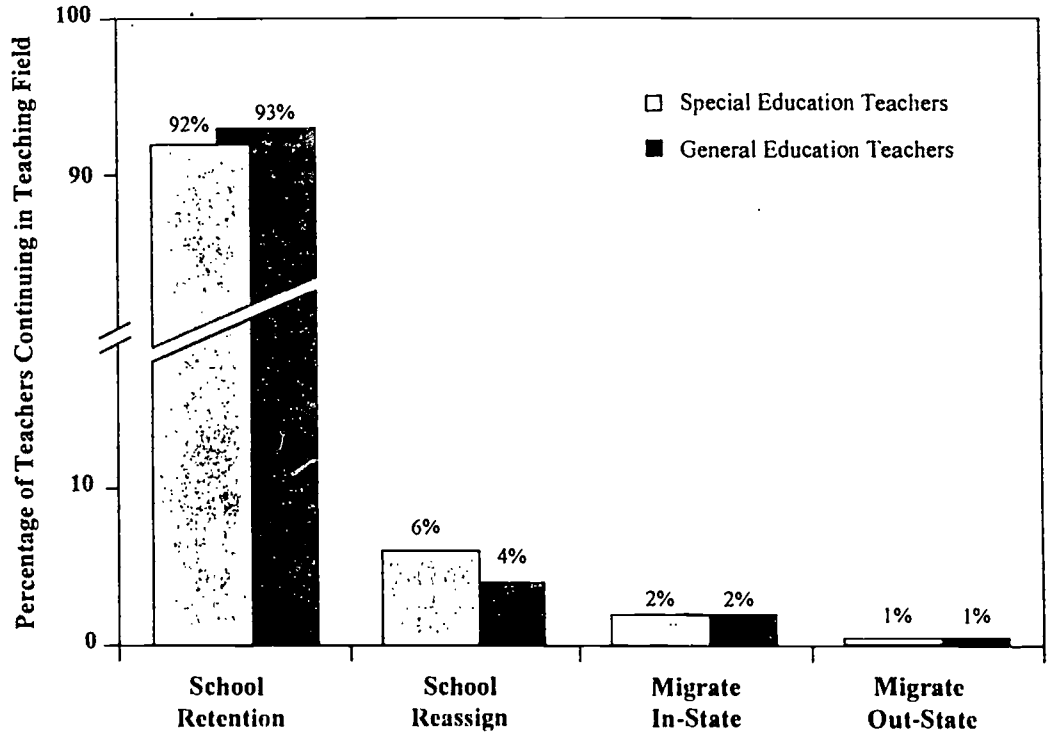

Figure 2. School retention, school reassignment within the same district, and school migration to other in-state and out-of-state districts, of public school teachers from 1990-91 to 1991-92 by main teaching field, as percentages of special education teachers and general education teachers continuing in their main teaching field. Data Source: The Schools and Staffing Survey (1990-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics.

while 1% migrated to public schools in a different state. The pattern of school retention, reassignment, and migration of SETs was similar to that of GETs.[5]

It is important to note, however, that from a district perspective, migration to out-of-district schools is a form of attrition and might actually be reported as such by districts, even though it does not represent a loss to the home state or national teaching forces in special education. Similarly, migration out-of-state is typically classified as attrition in state-level studies because state data bases do not ordinarily record the employment status of teachers that leave the state. Therefore, reports of attrition percentages based on state data bases are typically inflated somewhat from the national perspective. One of the advantages of analyses of teacher transfer from national data bases is that cross-district and cross-state transfer of teachers can be differentiated from attrition from the public school teaching force.

District Retention and Urbanicity

Figure 3 presents information about whether retention of teachers within a district is related to the urbanicity of school locations. For purposes of this analysis, district retention refers to teachers in 1990-91 who continued with a main teaching assignment in the same field and in the same district the following year. By contrast, district attrition includes both teachers in 1990-91 who transferred to a different district in 1991-92 (but who continued with a main teaching assignment in the same field) and to teachers who left the profession. Thus, switchers were excluded from this analysis so as to focus on SETs and GETs who continued in their respective teaching fields from one year to the next. The data show that there was no difference in district retention as a function of urbanicity for either SETs or GETs separately, nor was there a difference between district retention for SETs and GETs as a function of urbanicity.[6] While the nature of problems entailed in retaining teachers within a district may depend on a district's location, the magnitude of the district attrition problem does not appear to be greater in urban areas than elsewhere.

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[5]Special and general education did not differ significantly in the percentages of teachers in the various school transfer categories, $\chi^2(3, N = 3,141) = 6.39, p < .05$.

[6]District retention percentages were not related significantly to the urbanicity variable for either SETs or GETs [for SETs, $\chi^2(3, N = 512) = 2.81, p > .20$; for GETs, $\chi^2(3, N = 3,969) = 0.90, p > .20$]. Likewise, special and general education did not differ significantly in the percentages of teachers retained in their home districts as a function of the urbanicity variable, $\chi^2(3, N = 2,576) = 4.15, p < .20$.

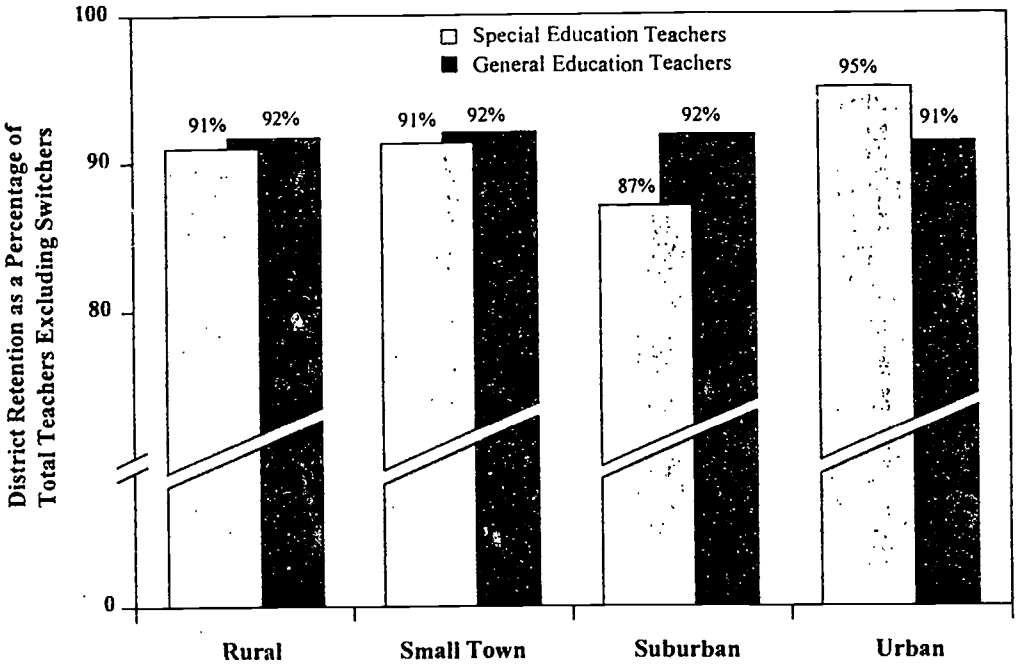

Figure 3. District retention of public school teachers from 1990-91 to 1991-92 by urbanicity of school location (rural, small town, suburban/large town, and urban) and main teaching field, as a percentage of total special education teachers and total general education teachers in 1990-91, excluding teachers who transfer to the other main teaching field (switchers) in 1991-1992. Data Source: The Schools and Staffing Survey (1990-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics.

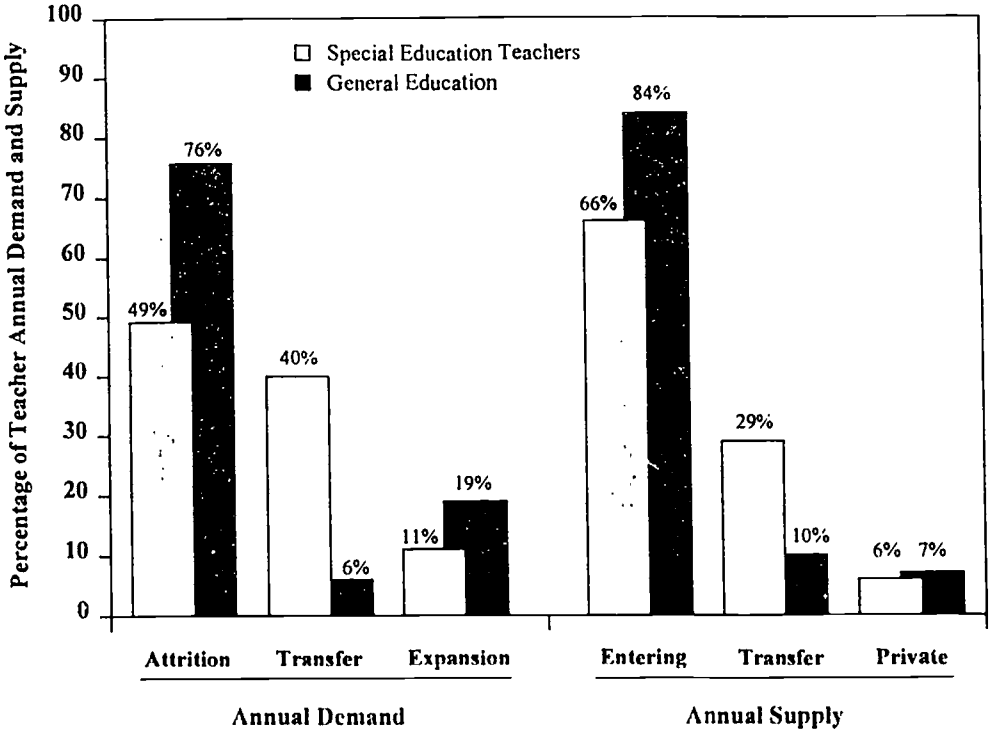

Figure 4. Sources of annual demand for public school teachers (attrition, transfer to other main teacher field, and expansion of teaching positions) as percentages of total annual demand, compared with sources of annual supply of public school teachers (entering teachers, transfer from the other main teaching field, and migration from private schools) as percentages of total annual supply, by main teaching field. Data Source: The Schools and Staffing Survey (1990-91) and the Teacher Followup Survey (1992) of the National Center for Education Statistics.

Annual Teacher Demand and Supply

As shown in Figure 1, there is considerable annual outflow of SETs and GETs--both in transfer to the other teaching field and in attrition from the profession. Such outflow creates open positions (i.e., demand) that need to be filled with an inflow of teachers (i.e., supply) from various sources. With its relatively high percentage of transfer of teachers to general education, the annual demand for new hires is considerably greater in special education (13%) than in general education (7%). National estimates of the components of annual demand and annual supply for SETs and GETs are presented in Figure 4. In addition to demand for teachers created by attrition and teaching field transfer, another component of demand for SETs and GETs is the annual expansion of the number of teaching positions.[7]

The left half of Figure 4 shows that the factors contributing to annual demand for individuals to fill open teaching positions are quite different in special education than in general education. The major difference is due to the relatively high rate of transfer of SETs to general education in comparison with transfer of GETs to special education. The data suggest that 40% of teaching positions that open annually in special education are created by transfer teachers to general education, while only 6% of the open positions in general education are created by transfers to special education. The cross-field transfer of SETs is such an important source of demand for additional teachers that it rivals attrition as a source of demand (40% for cross-field transfer vs. 49% for attrition), and it tends to minimize the relative importance of the annual growth of teaching positions (11%), even though the growth of SETs from 1984-85 to 1991-92 has outpaced the growth of GETs by a factor of 1.7 (Boe, unpublished data).

Some factors might be responsible for both cross-field transfer and attrition of SETs (e.g., dissatisfaction with aspects of special education teaching positions), while other factors are particular to attrition (e.g., retirement). It is possible that some strategies to promote retention in special education might address the problems of teaching field transfer and attrition simultaneously, while other strategies need to target problems of teaching field transfer and attrition by different means.

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[7]The estimated numbers for the annual expansion component, as presented in Figure 4 and Table 4, were based on the five-year mean expansion of total teaching positions from 1986 to 1991 as reported from NCES's Common Core of Data (CCD) for public school teachers (Snyder & Hoffman, 1994, p. 74), and adjusted appropriately for differences between SASS and CCD procedures for counting teachers. The proportion of SETs and GETs represented in the CCD data for expansion of total teaching positions was estimated from SASS data and based on the proportion total SETs and total GETs of total teachers as reported in Table 1.

The right half of Figure 4 shows that sources of the annual supply of individuals to fill open teaching positions are also quite different for special education than for general education. The major difference is due to the greater importance of the transfer of GETs to special education in comparison with transfer of SETs to general education. The data show that 29% of teaching positions open annually in special education are filled by teachers that transfer in from general education, while only 10% of the open positions in general education are filled by teachers transferring from special education.

Conclusions

Several important conclusions about teacher retention, transfer, attrition, and supply can be drawn from national estimates of components of the teaching forces in special education and in general education. Since the national estimates reported here pertain specifically to the time period 1990-92, extrapolation to the present time should be made with caution--at least until such time that they are confirmed by analyses of more recent national data. With this caveat in mind, the current findings support the following conclusions:

1. The retention of SETs in special education teaching assignments from one year to the next (89%) is significantly less than the retention of GETs in general education teaching assignments (94%).

2. The lower percentage of retained SETs (89%) than GETs (94%) is due primarily to the transfer of SETs to general education (5%) than the reverse transfer of GETs to special education (0.4%), and only secondarily to differential attrition percentages (6% for SETs, 5% for GETs).

3. Since the big difference between the retention of SETs and GETs is due to the much higher teaching field transfer percentage of SETs, interventions designed to improve retention of SETs might most productively focus on causes of this difference instead of on the broader social, demographic, and economic conditions that account for much attrition from the teaching profession.

4. Of SETs and GETs retained in the same teaching field from one year to the next, approximately the same percentage transfer to different public schools, with the substantial majority remaining in the same district (98% for SETs, 97% for GETs). Even when attrition from the profession is taken into account, district retention of SETs (91%) and GETs (92%) is comparable.

5. The retention of SETs and GETs in the same district from one year to the next is not a function of the urbanity of the school location. Thus the magnitude of district retention problems faced by urban districts is no larger than that faced by rural or suburban districts. It is possible that the nature of problems promoting district attrition may vary and therefore require somewhat different interventions to improve retention.

6. Just as the annual transfer of SETs to general education (about 14,600 teachers) is a major source of open positions that need to be filled, the annual transfer of GETs to special education (about 9,300 teachers) is a major source of supply.

7. While the overall annual demand for new hires in special education (about 13% of its teaching force) is much higher than in general education (about 7% of its teaching force), the annual demand for new hires of entering teachers is approximately equal (8% in special education, 7% in general education) when the annual cross-transfer of continuing teachers between special and general education is taken into account.

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APPENDIX A

Data Sources and the Teacher Sample

The Schools and Staffing Survey of 1990-91 (SASS)

The research reported here is based in part on the Public School Teachers Questionnaire and the Public School Questionnaire of the 1990-91 SASS. The design of this survey, a national probability sample, provides for representative estimates of the numbers and attributes of teachers in both public and private sector schools. A complete technical description of this survey is provided by Kaufman and Huang, 1993.

SASS was administered to national probability samples of public- and private-sector teachers, principals, schools, and public-sector school districts during early 1991. It was composed of four basic questionnaires, with minor variations for units in the public and private sectors. The four questionnaires used in the public sector, along with specification of the units sampled and sample sizes (before modest questionnaire nonresponse) are shown in Table 1 of Appendix A. SASS questionnaires were administered by mail, with extensive telephone followup. Consequently, questionnaire response rates were quite high--a weighted response rate of 91.0% for the Public School Teacher Questionnaire and 95.3% for the Public School Questionnaire (Kaufman & Huang, 1993), both sources of data reported here.

SASS was designed so that schools were the primary sampling unit. Once a school was selected for the sample, the principal of that school was selected for the Administrator Questionnaire and an average of four to eight teachers from that school was selected for the Teacher Questionnaire. In the public sector, the Teacher Demand and Shortage Questionnaire was completed for the district in which the school was located. This design, therefore, permits the linking of data from one questionnaire to another. For example, teachers' perceptions of school climate can be compared with corresponding perceptions of the principals of their schools.

The size of the teacher sample in public schools was _____. The sample design permits national estimates for both special and general education teachers at the elementary and secondary levels in the public sector, as well as for many other variables.

The Public School Teacher Questionnaire concentrated on teachers' current teaching status, teaching experience, teacher training and certification, current teaching assignment and load, perceptions and attitudes toward teaching, compensation and incentives, and demographic and socioeconomic characteristics. It provides data suitable for identifying entering and transferring teachers, including transfers among schools, and for tracing these teachers back to their sources of supply.

The Teacher Followup Survey of 1992 (TFS)

The research reported here is based in major part on 1992 TFS which was derived from and linked to the SASS administered in the prior year. The design of this survey likewise provided for representative estimates of the numbers and attributes of teachers in both public and private sector schools. A technical description of this survey is provided by in Whitener, Kaufman, Rohr, Bynum, and King (1994).

TFS was administered in early 1992 (one year after SASS) to samples of teachers that had been included in the 1990-91 SASS sample of teachers during the prior year. The 1992 administration of TFS was composed of two questionnaires, a Questionnaire for Current Teachers who continued in the teaching profession from the prior year, and a Questionnaire for Former Teachers who had left the teaching profession at the end of the prior school year. The Questionnaire for Current Teachers was administered to a national sample of teachers drawn from the prior SASS sample of teachers. One stratum of this sample included teachers who had continued teaching in the same school (stayers), while another stratum included teachers who had moved to a different school (movers). Teacher samples within each stratum were national probability samples. In contrast, the Questionnaire for Former Teachers was administered to all teachers included in the SASS samples who had left the teaching profession at the end of the prior school year (leavers). The sample sizes for the followup questionnaires are also shown in Table 1.

TFS questionnaires were administered by mail, with extensive telephone followup. Consequently, questionnaire response rates were high--a weighted response rate of 97.4% for the Questionnaire for Current Teachers and 92.4 % for the Questionnaire for Former Teachers (Whitener, et al., 1994, p. 11).

The followup questionnaires for teachers concentrated on their current employment and teaching status, educational activities and future plans, a wide variety of opinions about teaching, and demographic and socioeconomic characteristics. Since the TFS samples of

teachers were drawn from the SASS teacher sample, it is possible to link responses to SASS and TFS questionnaires, thereby permitting analysis of similarities and differences from one year to the next in many variables of interest, such as factors related to teachers transferring among schools and teaching fields, and teachers leaving the profession.

The Teacher Sample

In keeping with the SASS definition of a teacher and for the purposes of this research, a teacher was defined as:

> . . . any full-time or part-time teacher whose primary (i.e., main) assignment was teaching in any of grades K-12. Itinerant teachers were included, as well as long-term substitutes who were filling the role of a regular teacher[8] on an indefinite basis. An itinerant teacher is defined as a teacher who teaches at more than one school (Kaufman & Huang, 1993, p. 11).

Thus, excluded from the definition of a teacher were individuals who identified their main assignment as a pre-kindergarten teacher, short-term substitute, student teacher, non-teaching specialist (e.g., counselor, librarian, school social worker, occupational therapist, and the like), administrator, teacher aide, and other professional or support staff. The selection of a sample of teachers meeting this definition of a teacher was accomplished by a two-stage process. First, schools selected into the SASS school sample were asked to provide teacher lists for their schools from which the teacher sample for the school was then selected. The individuals thus selected were sent the teacher questionnaire, the first item of which asked them to identify their main assignment at that school. Those who indicated that their main assignment was other than a regular, itinerant, or long-term substitute teacher (either full-time or part-time) were not included in the final teacher sample. Thus, at the second stage, teachers self-defined their main assignment and, therefore, their status as a teacher.

SETs were defined for the analyses reported in this paper as public school teachers (K-12) who indicated that their current main teaching assignment was in any one of a variety of teaching specialization in special education provided by the SASS questionnaire, including other special education. Given that the questionnaire included a category for "other special education," then all elementary and secondary teachers with a main assignment in any area of special education should have been able to identify themselves as such, regardless of the particular certification categories or terminology used in their home state.

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[8]A regular teacher, as used here, includes both SETs and GETs.

GETs were defined here as all public school teachers (K-12) other than SETs.

The sizes of the samples of SETs and GETs on which the analyses of this report were based are presented in Tables 1 through 4 of Appendix B. The total sample sizes given in these tables is the net teacher sample after ineligible schools and teachers were eliminated from the survey, and after modest questionnaire nonresponse.

APPENDIX B

Data Tables

Table 1

Teaching Field Retention, Transfer and Attrition of Public School Teachers from 1990-91 to 1991-92: National Estimates of the Numbers of Special and General Education Teachers

Teacher Status: 1991-92	Statistic[a]	1990-91: Main Teaching Field* Special Education	General Education	Total
Retention in the Same Teaching Field	Nat. Est.	254,961	2,118,476	2,373,437
	Col %	88.7%	94.0%	93.4%
	SE %	1.8%	0.4%	0.4%
	Sample (n)	380	2,761	3,141
Transfer to Other Teaching Field	Nat. Est.	14,559	9,295	23,854
	Col %	5.1%	0.4%	0.9%
	SE %	1.1%	0.1%	0.2%
	Sample (n)	45	32	77
Attrition from Public School Teaching	Nat. Est.	18,043	126,136	144,179
	Col %	6.3%	5.6%	5.7%
	SE %	1.3%	0.4%	0.4%
	Sample (n)	159	1,360	1,519
Total Teaching Force	Nat. Est.	287,563	2,253,907	2,541,470
	SE Est.	16,962	46,984	45,765
	Col %	100.0%	100.0%	100.0%
	Sample (n)	584	4,153	4,737

Note. Data from the 1990-91 Schools and Staffing Survey, and the 1992 Teacher Followup Survey, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the total numbers of full-time and part-time teachers combined at both the elementary and secondary levels based on the survey sample size (n). Sums of columns or sums of rows may not equal
totals because of rounding. Col % = percentages of nationally estimated teachers of the column total of nationally estimated teachers; SE % = standard error of the column percentages.

*The χ^2 for this 2 x 3 table was significant at 69.02 ($p<.001$).

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Table 2

School Retention, Reassignment, and Migration of Public School Teachers Continuing in Their Main Teaching Field from 1990-91 to 1991-92: National Estimates of the Numbers of Special and General Education Teachers

School Transfer Status: 1991-92	Statistic[a]	1990-91 and 1991-92: Main Teaching Field* Special Education	General Education	Total
Retention in the Same School	Nat. Est.	233,438	1,975,686	2,209,125
	Col %	91.6%	93.3%	93.1%
	SE %	1.3%	0.4%	0.4%
	Sample (n)	244	1,944	2,188
Reassignment to a Different School in the Same District	Nat. Est.	16,222	85,061	101,283
	Col %	6.4%	4.0%	4.3%
	SE %	1.2%	0.3%	0.3%
	Sample (n)	82	411	493
Migration to a Different District in the Same State	Nat. Est.	4,112	43,871	47,983
	Col %	1.6%	2.1%	2.0%
	SE %	0.4%	0.3%	0.2%
	Sample (n)	41	319	360
Migration to a Different District in a Different State	Nat. Est.	1,188	13,858	15,046
	Col %	0.5%	0.7%	0.6%
	SE %	0.2%	0.1%	0.1%
	Sample (n)	_[b]	87	100
Total Teachers Continuing in Same Main Teaching Field	Nat. Est.	254,961	2,118,476	2,373,437
	SE Est.	16,151	46,007	43,917
	Col %	100.0%	100.0%	100.0%
	Sample (n)	380	2,761	3,141

Note. Data from the 1990-91 Schools and Staffing Survey, and the 1992 Teacher Followup Survey, National Center for Education
Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the total numbers of full-time and part-time teachers combined at both the elementary
and secondary levels based on the survey sample size (n). Sums of columns or sums of rows may not equal totals because of rounding.
Col % = percentages of nationally estimated teachers of the column total of nationally estimated teachers; SE % = standard error of the column percentages.

[b]Sample too small (<30) for computing a reliable estimate.

*The χ^2 for this 2 x 4 table was 6.39 ($p>.05$).

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Table 3

District Retention and Attrition of Public School Teachers Continuing in Their Main Teaching Field from 1990-91 to 1991-92: National Estimates of the Numbers of Special and General Education Teachers as a Function of Urbanicity of School Location

		Main Teaching Field: 1990-91 and 1991-92*			
		Special Education		General Education	
Urbanicity of School Location: 1990-91	Statistic[a]	District Retention	District Attrition	District Retention	District Attrition
Urban	Nat. Est.	74,703	3,882	525,273	52,912
	Row %	95.1%	4.9%	90.9%	9.1%
	SE %	1.7%	1.7%	0.8%	0.8%
	Sample (n)	94	47	613	377
Suburban/ Large Town	Nat. Est.	59,999	8,717	617,937	53,077
	Row %	87.3%	12.7%	92.1%	7.9%
	SE %	5.1%	5.1%	0.9%	0.9%
	Sample (n)	77	54	633	364
Small Town	Nat. Est.	57,926	5,881	463,230	38,230
	Row %	90.8%	9.2%	92.4%	7.6%
	SE %	1.9%	1.9%	0.9%	0.9%
	Sample (n)	73	54	539	398
Rural	Nat. Est.	42,422	4,175	379,776	34,592
	Row %	91.0%	9.0%	91.7%	8.3%
	SE %	3.0%	3.0%	1.0%	1.0%
	Sample (n)	62	51	485	560
Total Teachers:	Nat. Est.	235,049	22,655	1,986,215	178,811
	SE Est.	16,041	3,772	44,205	11,394
	Row %	91.2%	8.8%	91.7%	8.3%
	Sample (n)	306	206	2,270	1,699

Note. Data from the 1990-91 Schools and Staffing Survey, and the 1992 Teacher Followup Survey, National Center for Education Statistics, USDE.

[a]Nationally weighted estimates (Nat. Est.) of the total numbers of full-time and part-time teachers combined at both the elementary and secondary levels based on the survey sample size (n). Sums of columns or sums of rows may not equal totals because of rounding. Row % = percentages of nationally estimated teachers of the row total of nationally estimated teachers for special and general education separately; SE % = standard error of the row percentages. Nonresponse to the Public School Questionnaire of SASS which provided the urbanicity variable resulted in a sample size reduction of 179 teachers.

*The χ^2 for the 2 x 4 table based on district retention estimates for special and general education and four levels of the urbanicity variable was 4.15 (p>.20) .

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Table 4

Sources of Open Teaching Positions (Annual Demand) in Public Schools and Source of Teachers to Fill Open Positions (Annual Supply) in 1991-92: National Estimates of the Numbers of Special and General Education Teachers.

Component	Statistic[a]	Main Teaching Field: Special Education	Main Teaching Field: General Education	Total
I. Sources of Annual Demand for Teachers				
A. Attrition from 1990-91	Nat. Est.	18,000	126,100	144,100
	SE Est.	3,670	9,080	12,570
	Col %	49.2%	75.8%	80.5%
	Sample (n)	159	1,360	1,519
B. Transfer to Other Main Teaching Field from 1990-91	Nat. Est.	14,600	9,300	_[b]
	SE Est.	3,270	3,470	
	Col %	39.9%	5.6%	
	Sample (n)	45	32	
C. Expansion of Teaching Positions from 1990-91	Nat. Est.	4,000	31,000	35,000
	Col %	10.9%	18.6%	19.5%
Total Annual Demand	Nat. Est.	36,600	166,400	179,100
	Col %	100.0%	100.0%	100.0%
II. Sources of Annual Supply of Teachers				
A. Entering Teachers (1990-91 data)	Nat. Est.	21,300	125,300	146,600
	SE Est.			
	Col %	65.5%	83.8%	92.7%
	Sample (n)	388	2,492	2,880
B. Transfer from Other Main Teaching Field from 1990-91	Nat. Est.	9,300	14,600	_[b]
	SE Est.	3,470	3,270	
	Col %	28.6%	9.8%	
	Sample (n)	32	45	
C. Private School Migrants (1990-91 data)	Nat. Est.	1,900	9,700	11,600
	SE Est.	510	2,580	1,630
	Col %	5.8%	6.5%	7.3%
	Sample (n)	27	147	174
Total Annual Supply	Nat. Est.	32,500	149,600	158,200
	Col %	100.0%	100.0%	100.0%

Note. Data from the 1987-88 Schools and Staffing Survey and the 1988-89 Teacher Followup Survey, National Center for Education Statistics, USDE.

[a] Nationally weighted estimates (Nat. Est.) of the total numbers of full-time and part-time teachers combined at both the elementary and secondary levels in the public sector. Sums of columns or sums of rows may not equal totals because of rounding. Col = column; SE = standard error; n = sample size.

[b] Transfer of teachers between main teaching fields does not affect the total annual demand for teachers, nor represent a source of supply of total teachers.

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