

ADMINISTRATORS' VIEWS OF SPECIAL EDUCATION PERSONNEL NEEDS IN TEXAS PUBLIC SCHOOLS

Fanny Caranikas-Walker, PhD

Texas Center for Educational Research
PO Box 679002, Austin, TX 78767-9002
512.467.3632
fanny.caranikas-walker@tasb.org

Kelly S. Shapley, PhD

Texas Center for Educational Research
PO Box 679002, Austin, TX 78767-9002
512.467.3632
kelly.shapley@tasb.org

Molly Cordeau, EdD

Region 4 Education Service Center
7145 West Tidwell, Houston, TX 77092-2096
713.744.6529
mollyc@esc4.net

Paper presented at the Annual Meeting of the Southwest Educational Research Association (SERA), February 8, 2006, Austin, TX.

ADMINISTRATORS' VIEWS OF SPECIAL EDUCATION PERSONNEL NEEDS IN TEXAS PUBLIC SCHOOLS

This study supports efforts by the U.S. Department of Education, Office of Special Education Programs (OSEP) to foster greater state accountability and establish data-driven planning and self-assessment processes that help states and schools to address provisions of the recently enacted Individuals with Disabilities Education Act (IDEA, 2004). In response to state-level requirements, the Texas Education Agency (TEA) asked Region 4 Education Service Center (ESC) to facilitate the second statewide study of special education professionals personnel needs. This study augments the initial *Statewide Study of Special Education Professionals' Personnel Needs* conducted by the Texas Center for Educational Research (TCER) and published in September 2001. The final report will provide information to assist the TEA, Region 4 ESC, and other statewide stakeholders in promoting and maintaining an adequate supply of special education professionals “highly qualified” to meet the needs of students with disabilities.

At the time of the previous study, the literature indicated that there was a chronic shortage of special education teachers throughout the United States. A nationwide study of special education identified this shortage as a critical factor influencing teacher quality (Carlson, et al., July 2002), since school administrators may have little recourse to hiring less qualified special education teachers when faced with smaller applicant pools. Our findings from the 2001 special education needs assessment reflected the national trends in special education staffing. Specifically, we found critical shortages in Texas schools for special education teachers, as well as for educational diagnosticians, speech language pathologists, and special education paraprofessionals. The 2001 needs assessment provided suggestions for addressing these critical shortages, and many strategies were implemented. However, recent anecdotal evidence from special education administrators indicated that personnel shortages persisted in 2005.

Our review of relevant literature indicated the most salient factor contributing to shortages in special education was employee turnover (Billingsley, 2004; Carlson, et al., July 2002; McLeskey, Tyler, & Flippin, 2004). This is consistent with findings regarding general teacher shortages nation-wide (Ingersoll, January 2001), as well as research in Texas schools (Herbert & Ramsay, September 2004). Thus we incorporated into our current study an assessment of the conditions likely to influence employee turnover, particularly those that encourage employee retention.

There are numerous approaches for improving employee retention and thereby decreasing employee turnover. The education literature provides a rich source of suggestions for increasing teacher retention generally (e.g., Firestone & Pennell, 1993; Herbert & Ramsay, 2004; Norton, 1999; Rosenholtz & Simpson, 1990). Investigation of the research on special education personnel turnover provides a wealth of information regarding the organizational, job, and individual work conditions that appear to influence retention (e.g., Billingsley, 1993, 2004; Brownell & Smith, 1993; Gersten, et al., 2001; Stempien & Loeb, 2002). Other research and pilot projects present prescriptions for increasing special education personnel retention such as designing appropriate financial incentives, offering mentoring and induction programs for new

teachers, increasing administrative support for special educators, and supporting professional development activities in special education (Billingsley, 2004; Billingsley & Cross, 1992; Brownell & Smith, 1993; Carlson, et al., 2002; Council on Exceptional Children Today, 2002; Fore & Martin, 2002; Gersten, et al., 2001; National Clearinghouse for Professions in Special Education, 1998; Yell, et al., 2002). We investigated several of these strategies and retention-related work conditions in the current study.

Purpose and Research Questions

The current study was designed to identify existing shortages in special education teacher and other special education professional positions, and to investigate the various issues that appear to influence turnover in these positions in Texas public schools. In addition, we explored issues from multiple perspectives. We surveyed human resource administrators and special education administrators to gain an understanding of personnel shortages and other issues at the organizational level. We also surveyed special education teachers and other special education professionals (i.e., educational diagnosticians, speech language therapists, and other professionals who provide direct services for special education students) to gauge the availability and quality of special education personnel and to explore factors affecting employee turnover. This paper summarizes preliminary findings from our surveys of human resource administrators and special education administrators.

We were guided in our research by broad questions relevant to the purpose of the study. These questions, presented below, were directed toward special education and human resource administrators or to special education teachers and other special education professionals and served to provide direction for development of our instruments and methodology.

- What special education personnel needs exist in the state?
- How are special educators recruited?
- How are currently employed special educators retained?
- What are the characteristics of special education teachers and other special education professionals currently employed in the state?

Research Methodology

Instrument Development and Validation for Administrator Surveys

As a first step in instrument development, researchers conducted a review of the literature on teacher retention, special education teacher personnel issues, and employee turnover to identify issues relevant to staffing of special education personnel. We developed one survey with items tailored for human resource administrators, and one survey designed for special education administrators. Some survey items came from previously administered surveys and theories identified through the literature review; additional items were drawn from administrator surveys used in the *Statewide Study of Special Education Professionals' Personnel Needs* (TCER, 2001).

To improve the validity of the administrator surveys, researchers first had professionals associated with the TEA and Region 4 ESC, who had expertise in the field of special education, review draft questionnaires. In March 2005, we conducted interviews with a small sample of special education administrators and teachers who were potential survey respondents. Twenty-one administrators and teachers representing both single districts and special education Shared Service Arrangements (SSAs) participated in small-group interviews at the Region 4 ESC. Interviews, which lasted about two hours, allowed respondents to discuss their responses to survey questions concerning recruitment, staffing, and retention strategies for special education personnel, work conditions influencing retention, and positions currently being staffed. Feedback from the group interviews revealed questions on the surveys that omitted critical issues, or were misleading or confusing. Researchers next revised the questionnaires to alleviate identified problems and converted them into machine scannable forms.

The *Special Education Personnel Needs Survey for Special Education Administrators* was designed to gather information from administrators of district special education programs and from administrators of special education SSAs. Survey items addressed staffing and retention strategies, barriers to retention, and professional development needs of personnel. We also asked special education administrators for their approaches to meeting requirements for “highly qualified” personnel, and for their feedback regarding hiring teachers from alternative certification programs. In addition, administrators provided general information, including their years experience in the field of special education.

The *Special Education Personnel Needs Survey for Human Resource Administrators* was designed to gather information on special education personnel issues from central administrators who were directly involved in recruiting and hiring decisions. Survey items addressed special education personnel staffing levels and shortages, recruitment strategies, turnover in special education jobs, barriers to hiring and retaining personnel, and future staffing issues.

Survey Procedures

We identified the survey populations, obtained addresses for individuals in each survey group, and mailed surveys out in June of 2005. For the survey of *special education administrators*, researchers obtained a list of administrators in Texas public schools from the Texas Council of Administrators of Special Education (TCASE). We mailed questionnaires to special education administrators in 344 single, independent districts. In addition, we mailed questionnaires to special education administrators in each of the 131 SSAs for independent school districts. We obtained data regarding district participation in SSAs for special education services for the 2004-05 school year from the SSA directory available on the TEA website. We updated this directory with information from the TCASE directory, and feedback from special education administrators who contacted TCER by phone after receiving our mailed questionnaire.

For the survey of *human resource administrators*, we obtained a list of human resource administrators for all of the independent public school districts in Texas from the Texas

Association of School Boards (TASB). Human resource administrator questionnaires were mailed to 1,039 independent school districts in operation during 2004-05. Administrators for each of the 131 special education SSAs operating in 2004-05 were also mailed human resource administrator questionnaires. (We excluded several school districts that appeared to have a mission different from the typical public schools in Texas. Specifically, we excluded schools that were identified as alternative educational programs or disciplinary alternative educational programs. We also excluded the Texas Youth Commission programs, the Texas School for the Blind and Visually Impaired, and the Texas School for the Deaf.)

To encourage greater participation in the administrator surveys, we e-mailed a reminder letter to all of the human resource administrators and special education administrators on our original mailing list. The e-mails were distributed a few weeks after the questionnaires were mailed.

Response Rates

For each of the surveys, we compared the number of completed questionnaires we received to the number we originally mailed out to administrators. The response rates for each survey are presented in Table 1. The overall response rate for human resource administrator surveys was 40.2 percent, and for special education administrator surveys, it was 53.1 percent. These response rates are consistent with previous studies in public schools, and in our previous 2001 special education needs assessment. (In our 2001 study, we reported combined response rates for independent districts and charter schools. The combined response rate for the special education administrator surveys was the same for both years—44.0 percent in 2001, and 44.3 percent in 2005. The combined response rate for the human resource administrator surveys in 2005 was comparable to the rate obtained in our 2001 study—41.0 percent in 2001, and 38.0 percent in 2005).

Table 1. Response Rates for Administrator Surveys of Independent Districts

	Districts or SSAs Surveyed	Number of Respondents	Response Rate
Human Resource Administrator Survey			
Single Districts	344	140	40.7%
SSA Participant Districts	695	288	41.4%
SSAs	131	42	32.1%
Special Education Administrator Survey			
Single Districts	344	184	53.5%
SSAs	131	68	51.9%

In order to determine the degree to which our respondents were representative of the school districts we surveyed, we first evaluated response rates as described above. Secondly, for each group we surveyed (single districts, SSA participant districts, SSAs), we compared data describing the survey respondent districts to data describing all the districts or SSAs surveyed.

This second approach to assessing the potential generalizability of our research to all public schools in Texas is described below.

Respondent District Characteristics

Using data from 2003-04 AEIS reports, the most recently available, researchers compared the student enrollment characteristics of the districts originally surveyed to the characteristics of the districts from which administrators responded. On the whole, responding districts appeared to be quite similar to those of the survey populations—single districts, SSA participant districts, and SSAs (which have the same characteristics as their combined participant districts). The comparison of respondent and surveyed districts relative to district size (Tables 2, 3, and 4) provides a typical example of the degree to which respondents are representative of Texas public schools. As noted in the tables, the proportion of districts in each size category for survey respondents is very similar to the proportions that characterize the districts surveyed. For example, in Table 2 reporting on single districts, the proportion of districts with 1,600 to 2,999 students was 15.2 percent for all single districts surveyed. For respondents, 15.0 percent of human resource administrator survey respondent districts were in this enrollment size category, as were 16.9 percent of special education administrator survey respondent districts.

Table 2. SINGLE DISTRICTS: Comparison of Surveyed and Respondent Single Districts Based on District Size

Number of Students	Districts Surveyed		Human Resource Admin. Survey Respondents		Special Education Admin. Survey Respondents	
	Number	Percent	Number	Percent	Number	Percent
1 - 499 students	21	6.1	4	2.9	8	4.4
500 – 999 students	27	7.9	7	5.0	14	7.7
1,000 – 1,599	22	6.4	9	6.4	10	5.5
1,600 – 2,999	52	15.2	21	15.0	31	16.9
3,000 – 4,999	71	20.8	34	24.3	32	17.5
5,000 – 9,999	66	19.3	33	23.6	37	20.2
10,000 - 24,999	44	12.9	20	14.3	26	14.2
25,000 - 49,999	25	7.3	10	7.1	16	8.7
50,000 or more	14	4.1	2	1.4	9	4.9
Total	342	100.0	140	100.0	183	100.0

Sources. Human Resource Administrator Survey; Special Education Administrator Survey.¹

In addition to analyzing the distribution of districts among the different student enrollment size categories, we compared the following descriptive data for respondent districts and all districts surveyed: (1) proportion of students by ethnic group, (2) distribution of students by student service category—students in bilingual programs, limited English proficiency programs, etc., (3) number of districts by Education Service Center (ESC) region, (4) full-time equivalent (FTE) teachers by program—teachers in regular programs, bilingual programs, career and technology programs, etc. We conducted the same analyses for both the human resource administrator survey and the special education administrator survey. (The analyses are available from TCER.) In each analysis, the respondent districts appeared to match the districts surveyed as a whole. As

an example, for single districts, 46.0 percent of all students in the districts surveyed were of Hispanic origin. Across all the districts represented by special education respondents, 45.2 percent of the students were Hispanic. And for all districts represented by human resource respondents, 45.3 percent of the students were Hispanic. Given the similarity of respondent districts to districts surveyed, the results of the survey appear to be indicative of the public schools in Texas.

Table 3. SSA PARTICIPANT DISTRICTS: Comparison of Surveyed and Respondent SSA Participant Districts Based on District Size

Number of Students	Districts Surveyed		Human Resource Admin. Survey	
	Number	Percent	Number	Percent
1 – 499 students	314	45.2	119	41.3
500 - 999 students	185	26.6	74	25.7
1,000 - 1,599	103	14.8	57	19.8
1,600 - 2,999	69	9.9	34	11.8
3,000 - 4,999	16	2.3	2	0.7
5,000 - 9,999	6	0.9	2	0.7
10,000 - 24,999	1	.1	0	0.0
25,000 - 49,999	1	.1	0	0.0
50,000 or more	0	.0	0	0.0
Total	695	100.0	288	100.0

Source: Human Resource Administrator Survey.ⁱⁱ

Table 4. SSAs: Comparison of Surveyed and Respondent SSAs by SSA Size

Number of Students	SSAs Surveyed		Human Resource Admin. Survey		Special Education Admin. Survey	
	Number	Percent	Number	Percent	Number	Percent
1 – 499 students	1	0.8	0	0.0	0	0.0
500 - 999 students	0	0.0	0	0.0	0	0.0
1,000 - 1,599	6	4.6	2	4.8	2	2.9
1,600 - 2,999	31	23.7	10	23.8	14	20.6
3,000 - 4,999	48	36.6	16	38.1	26	38.2
5,000 - 9,999	39	29.8	12	28.6	22	32.4
10,000 - 24,999	5	3.8	2	4.8	3	4.4
25,000 - 49,999	1	0.8	0	0.0	1	1.5
50,000 or more	0	0.0	0	0.0	0	0.0
Total	131	100.0	42	100.0	68	100.0

Sources: Human Resource Administrator Survey, Special Education Administrator Survey.ⁱⁱⁱ

Special Education Administrator Characteristics

Special education administrators who responded to our survey had a prodigious amount of experience in special education (see Table 5). A large proportion of the administrators reported

having a total of 21 to 30 years experience in special education (37.4 percent of single district respondents, and 40.3 percent of SSA respondents), and some had more than 30 years experience (15.9 percent of single district respondents, and 10.4 percent of SSA respondents). Overall, single district special education administrators had an average of 21.0 years experience in the field of special education. SSA administrators had an average of 20.4 years experience in the field. In addition, most responding administrators had experience teaching special education. The average number of years single district administrators had taught was 8.4. The average number of years teaching special education for SSA administrators was 7.1.

Table 5. Special Education Administrators' Experience in the Field

Experience	Single Districts		SSAs	
	Number	Percent	Number	Percent
Total Years in Special Education				
0-5 yrs.	10	5.5	3	4.5
6-10 yrs.	23	12.6	8	11.9
11-20 yrs.	52	28.6	22	32.8
21-30 yrs.	68	37.4	27	40.3
31+ yrs.	29	15.9	7	10.4
Total	182	100.0	67	100.0
Years Teaching Special Education				
0 yrs.	27	15.1	8	11.9
1-3 yrs.	26	14.5	13	19.4
4-5 yrs.	27	15.1	10	14.9
6-10 yrs.	38	21.2	19	28.4
11-15 yrs.	34	19.0	13	19.4
16+ yrs.	27	15.1	4	6.0
Total	179	100.0	67	100.0
Years Administering Special Education				
1-3 yrs.	32	17.6	11	16.4
4-5 yrs.	28	15.4	9	13.4
6-10 yrs.	41	22.5	20	29.9
11-15 yrs.	38	20.9	15	22.4
16+ yrs.	43	23.6	12	17.9
Total	182	100.0	67	100.0

Note. There were 344 single districts and 131 SSAs surveyed.

Table 5.1. Special Education Administrators' Experience in the Field (continued)

Experience	Mean	Std.Dev.	Range	No. of Respondents (n)
Single Districts				
Total Years in Special Education	21.0	9.8	0-57 yrs.	182
Years Teaching Special Education	8.4	7.0	0-35 yrs.	179
Years Administering Special Education	10.4	9.0	1-34 yrs.	182
SSAs				
Total Years in Special Education	20.4	8.5	4-37 yrs.	67
Years Teaching Special Education	7.1	5.7	0-25 yrs.	67
Years Administering Special Education	10.0	6.9	1-31 yrs.	67

Source: Special Education Administrator Survey.

A number of respondents (15.1 percent of single district respondents, and 11.9 percent of SSA respondents) had no previous teaching experience in special education. While our survey did not collect data regarding other teaching assignments, it is possible that these respondents had prior experience teaching in general education. As to their administrative role in special education, respondents from both single districts and SSAs had served an average of 10 years, and about one-fourth of single district respondents (23.6 percent), and almost one-sixth of SSA respondents (17.9 percent) had 16 or more years of administrative experience.

Limitations of the Study

Overall, the respondents appear to represent districts throughout Texas public schools in terms of location, size, and demographic composition of the student population. However, statewide staffing levels, vacancies, and other characteristics inferred from the current study are only estimates. Only a portion of the districts provided data for the study, and the staffing levels and vacancy rates are estimates based on the data from those districts. In addition, the current study surveyed district-level administrators. Campus-level vacancy rates, turnover, and work conditions may vary from the district-level characteristics reported by these administrators.

Special Education Personnel Staffing Needs

Survey respondents reported 24,233 full-time equivalent (FTE) positions allocated to special education teacher and other professional positions, and to special education paraprofessional positions in their district or SSA. Teacher positions comprised 47 percent of the special education FTE reported; other special education professionals comprised 16 percent, and special education paraprofessionals comprised 37 percent.

Positions and Vacancies for Special Education Teachers

Given the vacant FTE positions reported by survey respondents, the most critical shortage in special education teachers is for special education teachers working with students in resource and/or content mastery. Teachers working with students who have adaptive behavior issues represent a potential critical shortage area which merits close attention in the future. The vacancy rate for teachers working with students who have adaptive behavior issues was the highest among all teaching positions surveyed. Teachers working with students who have moderate to severe disabilities comprise a significant proportion of special education teacher positions. The relatively high number of vacancies reported for this group may also signal potential shortages.

Table 6. Teacher Positions and Vacancy Rates for all Survey Respondents

Special Education Teacher Position	Total FTE Reported	Total Vacancy FTE Reported	Total Vacancy Rate (%)
Teachers working with students in resource and/or content mastery	5,686.3	226.9	4.0
Teachers working with students who have moderate to severe disabilities (i.e., Life Skills classes)	1,565.5	50.0	3.2
Teachers working with students who have a variety of disabilities (various teacher assignments)	1,021.2	36.5	3.6
Teachers working with students ages 3-5 (i.e., Preschool Program for Children with Disabilities)	853.6	24.0	2.8
Teachers working with students who have emotional disturbances (adaptive behavior issues)	760.8	65.0	8.5
Teachers working with students who have limited English proficiency (i.e., dual certified teachers)	578.5	14.0	2.4
Teachers working with students who have auditory impairments	249.7	15.0	6.0
Teachers working with students in home-based settings	224.0	11.5	5.1
Teachers working with students who have visual impairments	209.2	9.0	4.3
Teachers working with students who have autism	201.1	9.0	4.5
Totals	11,359.7	460.9	4.1

Source. Human Resource Administrator Survey.

Overall, districts and SSAs responding to the human resource administrator survey funded 11,360 FTE special education teacher positions (see Table 6). Half of these positions (50.1 percent) were allocated for teachers working with students in resource and/or content mastery.

The next greatest numbers of positions were allocated for teachers working with students who have moderate to severe disabilities (i.e., Life Skills classes), and teachers who work with students with a variety of disabilities. In all, these three teacher categories represented 8,273 FTE positions (72.9 percent of all teacher positions).

The greatest numbers of special education teacher vacancies were in the areas of resource and/or content mastery, working with students who have adaptive behavior issues, and working with students who have moderate to severe disabilities (342 total FTE vacancies). The vacancy rates for each of the teacher positions were below 10 percent, varying from 2.4 percent to 8.5 percent. While our survey did not provide turnover data by specific teaching position, it is possible that turnover in some of the positions was much greater than in others, contributing to relatively higher vacancy rates.

Positions and Vacancies for Other Special Education Professionals

Table 7. Other Special Education Professional Positions and Vacancy Rates for all Survey Respondents

Position	Total FTE Reported	Total Vacancy FTE Reported	Total Vacancy Rate (%)
Other Special Education Professionals			
Educational diagnosticians	1,363.1	84.4	6.2
Speech language pathologists	1,338.5	115.0	8.6
Bilingual educational diagnosticians	149.7	12.3	8.2
Specialists in school psychology	314.6	15.0	4.8
Sign language interpreters	222.5	22.0	9.9
Occupational therapists	211.7	9.0	4.3
Physical therapists	144.8	11.5	7.9
Bilingual speech language pathologists	104.0	21.0	20.2
Orientation and mobility specialists	77.4	4.5	5.8
Bilingual specialists in school psychology	36.5	6.0	16.4
Totals	3,962.6	300.6	7.6
Special Education Paraprofessionals			
Totals	8,910.0	283.5	3.2

Source. Human Resource Administrator Survey.

Critical shortages among other special education professional positions exist for speech language pathologists, and for educational diagnosticians. High vacancy rates for both bilingual speech language pathologies and bilingual specialists in school psychology may signal additional positions where special education staffing needs are growing. Retaining personnel in these positions, and identifying qualified personnel not currently in the workforce, may be critical staffing strategies for these positions until more professionals are trained in these fields. About two-thirds of the 3,963 FTE positions reported in the current study for other special education professionals were educational diagnostician and licensed or certified speech language

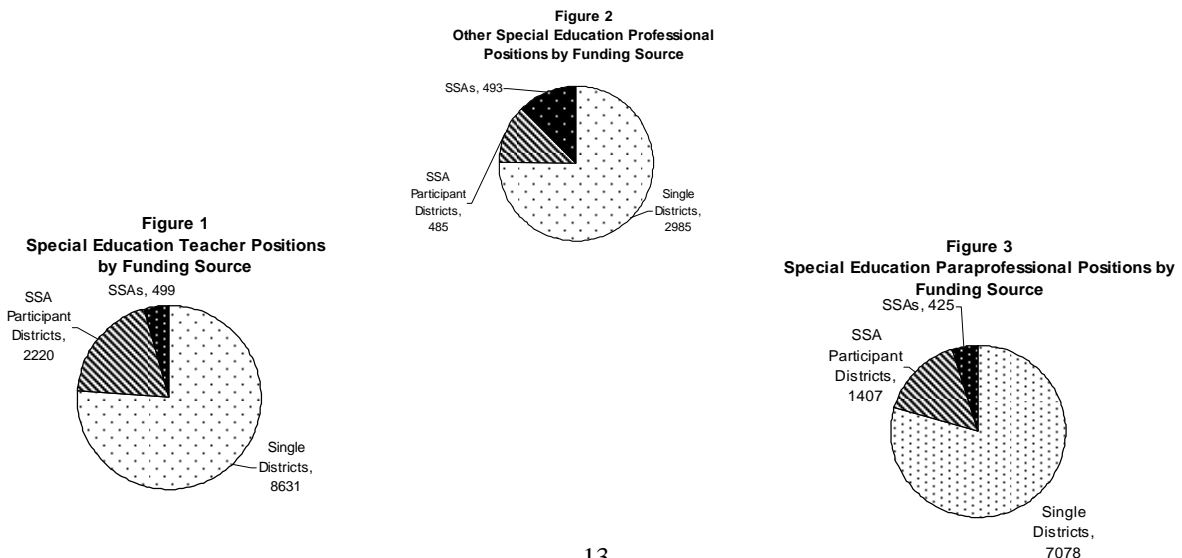
pathologist positions (34.4 percent and 33.8 percent of the professional positions, respectively) (see Table 7). The greatest numbers of vacancies were for the speech language pathologists (115); there were also many vacancies for educational diagnostician positions (84). While the number of FTE positions and vacancies was low for bilingual speech language pathologists and for bilingual licensed specialists in school psychology, the vacancy rates were more than twice the level reported for special education teacher positions (20.2 percent, and 16.4 percent, respectively).

Positions and Vacancies for Special Education Paraprofessionals

Paraprofessional positions may be an area of future growth in special education staffing as districts seek to reallocate some of the responsibilities that overburden special education teachers. A great number of paraprofessionals were employed at survey respondent districts and SSAs statewide in special education (8,910) during the last school year (see Table 7). Although the vacancy rate for this position was low (3.2 percent), it represented several hundred unfilled positions (284).

Staffing by Funding Source

Overall, the single districts were responsible for the majority of the FTE positions funded in special education statewide. We looked at the relative numbers of positions funded by single districts, by districts participating in a special education SSA, and by the SSAs. Based on analysis of respondent data, three-fourths of the special education teacher positions were funded by single districts (8,631), and most of the remaining teacher positions were funded by districts participating in a special education SSA (2,220). SSAs were responsible for only 4.4 percent of special education teaching positions (499). Similarly, three-fourths of the other special education professional positions were funded by single districts (7,078). However, SSAs (funding 493 positions) and districts participating in SSAs (funding 485 positions) appeared to share equally the remainder of the other special education professional FTE positions. More than three-quarters of the special education paraprofessional FTE positions were funded by single districts (7,078), and most of the remaining positions were funded by districts participating in SSAs (1,407). SSAs were responsible for only 4.8 percent of paraprofessional positions (425).



Statewide Staffing and Vacancy Levels

Based on weighted calculations, *we estimate that there were 69,667 positions in special education in Texas public schools (excluding charter schools and alternative education programs) at the time of the surveys. Almost half (46.6 percent) were teacher FTE positions, one-sixth were other professional FTE positions (16.5 percent), and the remainder were paraprofessional positions (36.8 percent).* In order to estimate statewide staffing levels, we looked at the degree to which respondent districts represented districts surveyed in terms of total student enrollment. Single district respondents represented 34 percent of all single district enrollment; SSA participant district respondents represented 40 percent of all SSA participant districts' enrollment; and SSA respondents represented 32 percent of SSA enrollment. We used these proportions to weight reported special education teacher and professional FTE positions and vacancies reported in our human resource administrator survey. Our estimates may underrepresent actual positions and vacancies due to a number of factors, particularly (1) enrollment and related data for two districts were not available in AEIS, and (2) some respondents indicated their district funded various positions, however, they did not report the number of positions funded.

Estimates indicate the most FTE teaching positions statewide in special education were allocated to working with students in resource and/or content mastery (16,257), and secondarily to working with students who have moderate to severe disabilities (4,495). Significant numbers of positions were also allocated statewide to working with students who have a variety of disabilities (2,899), students ages 3 to 5 (2,451), students who have adaptive behavior issues (2,198), and students with disabilities who have limited English proficiency (1,627). The most FTE positions for other special education professionals were allocated for educational diagnosticians (3,976), and licensed or certified speech language pathologists (3,896). There were also significant numbers of FTE positions for special education paraprofessionals (26,655).

Based on our analysis, seven positions had 100 or more estimated FTE vacancies statewide:

- Teachers working with students in resource and/or content mastery (644 estimated vacancies),
- Teachers working with students who have adaptive behavior issues (189),
- Teachers working with students who have moderate to severe disabilities (142),
- Teachers working with students who have a variety of disabilities (105),
- Speech language pathologists (338),
- Educational diagnosticians (248), and
- Special education paraprofessionals (809).

Table 8. Statewide Estimates of Special Education Positions and Vacancy Rates Based on Student Enrollment of Survey Respondents' Districts

Type of Position	Total FTE Estimated ^a	Total Vacancy FTE Estimated	Estimated Vacancy Rate (%)
Special Education Teachers Working Primarily with:			
Students ages 3-5 (i.e., Preschool Program for Children with Disabilities)	2,451	68	2.8
Students who have emotional disturbances (adaptive behavior issues)	2,198	189	8.6
Students who have autism	575	26	4.6
Students who have moderate to severe disabilities (i.e., Life Skills classes)	4,495	142	3.2
Students who have Limited English Proficiency (i.e., dual certified teachers)	1,627	39	2.4
Students who have visual impairments	607	26	4.3
Students who have auditory impairments	723	44	6.1
Students in resource and/or content mastery	16,257	644	4.0
Students in home-based settings	651	34	5.2
Students who have a variety of disabilities (various teacher assignments)	2,899	105	3.6
Totals	32,484	1,316	4.1
Special Education Professionals			
Educational diagnostician	3,976	248	6.2
Bilingual educational diagnostician	437	35	8.1
Speech language pathologist, licensed or certified	3,896	338	8.7
Bilingual speech language pathologist, licensed or certified	302	61	20.2
Licensed specialist in school psychology	911	45	4.9
Bilingual licensed specialist in school psychology	105	18	16.8
Occupational therapist	614	27	4.4
Physical therapist	417	34	8.1
Orientation and mobility specialist	223	13	5.7
Sign language interpreter	650	64	9.9
Totals	11,528	881	7.6
Special Education Paraprofessionals			
Totals	25,655	809	3.2

Note. Estimates are based on degree to which respondent districts represented districts surveyed with regard to student enrollment. For example, respondents to the single district survey represented 34 percent of all student enrollment in single districts. So we multiplied the reported number of FTE positions by 2.94 to obtain an estimate of 100 percent of FTE positions for single districts. Respondents to the SSA participant district survey represented 40 percent of student enrollment for all SSA participant districts. Respondents to the SSA survey represented 32 percent of student enrollment for all SSA participant districts.

In summary, the most critical shortages statewide appear to be for teachers working with students in resource and/or content mastery, and potentially for teachers working with students

who have adaptive behavior issues. *Critical shortages in other special education professional positions exist for educational diagnostician and licensed or certified speech language pathologist positions.* Based on an analysis of vacancy rates, there is an emerging need for bilingual speech language pathologists and for bilingual licensed specialists in school psychology. *The greatest number of vacancies by position was reported for paraprofessionals, and this may signal an area for closer study in the future.*

Special Education Personnel Turnover

The average special education teacher turnover for all three funding sources—single districts, SSA participant districts, and SSAs—was about 14.8 percent. We asked respondents to our human resource administrator survey to compare the number of personnel who left their jobs after the 2003-04 school year with the number of personnel employed, and to estimate turnover rates for both teachers and professionals in special education positions. Human resource administrators of single districts reported teacher turnover ranging from zero to 75 percent for their district. The mean turnover rate for these districts was 13.2 percent. For SSA participant districts, turnover rates ranged from zero to 100 percent for teacher positions, with a mean of 15.7 percent. And in SSAs, turnover rates for teachers ranged from zero to 60 percent, with a mean of 12.9 percent.

Overall turnover for other special education professionals was approximately 12.0 percent. Human resource administrators in single districts reported turnover for other professionals ranging from zero to 100 percent, with a mean turnover rate of 12.3 percent. For SSA participant districts, turnover rates varied from zero to 54 percent for other professionals, with a mean of 11.4 percent. In SSAs, turnover rates for other special education professionals ranged from zero to 62 percent. The mean turnover rate for other professionals funded by SSAs was 14.5 percent.

These turnover rates are similar to the 14.3 percent turnover reported by TEA for all teachers in Texas schools in 2003-04 (Academic Excellence Indicator System, 2005). However, there was a wide range of turnover rates experienced by the respondent districts, suggesting that turnover rates for particular special education positions may vary greatly as well. Written and oral comments from special education administrators suggest that the positions identified above as having critical shortages were positions that were difficult to fill. These special education positions in particular may have higher turnover rates than the overall special education or statewide teacher turnover rates. This may be a fruitful area for further research.

Destination of Special Education Job Leavers

The most common destination for special education teachers who left their job after the 2003-04 school year was to take a special education teaching position in another school district. Teachers also left their jobs to relocate to another community, or to retire. For other special education professionals who left their jobs, all three of these destinations were important. To assess this issue, we asked respondents to our human resource administrator survey to identify the key destinations of special education personnel who left their positions. Consideration of

these results suggests districts may be able to reduce turnover and vacancy rates by continuing to retain special education personnel who are near retirement. In addition, districts that work with special education personnel to make job conditions more attractive may be able to influence relocation decisions, and thereby reduce turnover.

Hiring Special Education Personnel

Hiring Difficulties

Some special education administrators reported having difficulty hiring teachers, however, it was much more common for them to report difficulty hiring other special education professionals. We anticipated administrators would perceive difficulties in staffing the other professional positions due to the relatively high vacancy rates for some of the bilingual and other positions. We also expected administrators would report difficulties hiring teachers due to the increased demand for qualified special education teachers. This increase in demand is a result of NCLB legislation, as well as increased interest in accountability at state and local levels. However, we were surprised that fewer than half of the respondents reported having difficulty hiring teachers. It is possible that special education administrators perceived difficulties filling other special education professional positions as relatively more severe than those experienced in staffing the teacher positions.

Barriers to Hiring

Human resource administrators in districts experiencing difficulty hiring were asked to select up to three of the most common barriers to hiring special education personnel. The top three hiring barriers for teachers and for other professionals are presented in the table.

Major barriers to hiring special education teachers identified in the current study were:

- Insufficient candidates with the requisite certification or license,
- Better salary, benefits, or incentives available in other school districts, and
- Salary levels that are too low.

Major barriers to hiring other special education professionals were:

- Insufficient candidates with the requisite certification or license,
- Salary levels that are too low, and
- Better salary, benefits, or incentives available in other districts, OR in private agencies, hospitals, and other organizations.

Table 9. Most Common Barriers to Hiring Special Education Personnel

Barrier to Hiring	Single Districts (%)	SSA Participant Districts (%)	SSAs (%)
Special Education Teachers			
Insufficient candidates with required certification or licensure	48.3	67.1	44.0
Better salary, benefits, or incentives available in other school districts	45.0	44.6	44.0
Salary levels are too low	41.7	50.8	48.0
Special Education Professionals			
Insufficient candidates with required certification or licensure	58.3	24.6	80.0
Salary levels are too low	50.0	30.8	60.0
Better salary, benefits, or incentives available in other school districts	45.0	29.2	40.0
Better salary, benefits, or incentives available in private agencies, hospitals, etc.	38.3	12.3	52.0

Source. Human Resource Administrator Survey.

Note. Data is presented for respondents who reported having difficulty hiring special education teachers or professionals. For single districts, 60 respondents (out of a total of 117) indicated their district was currently having difficulty hiring. For SSA participant districts, 65 respondents (out of a total of 272) indicated their district was currently having difficulty hiring. For SSAs, 25 respondents (out of a total of 40) indicated their district was currently having difficulty hiring.

Recruitment Strategies for Special Education Teacher Positions

Human administrators indicated their use and perceived effectiveness of various strategies for recruiting special education teachers.

The majority of single districts, SSA participant districts, and SSAs appeared to rely on the following recruitment strategies for teacher positions:

- Posting positions on the Internet,
- Contacting in-state colleges and universities, and
- Contacting personnel in other Texas schools and agencies.

Single districts also relied on streamlining the hiring process, and attending or sponsoring job fairs to recruit teachers.

Table 10. Use and Effectiveness of Key Recruitment Strategies for Special Education Teachers

Recruitment Strategy	Single Districts		SSA Participant Districts		SSAs	
	Percent Using	Mean Rating	Percent Using	Mean Rating	Percent Using	Mean Rating
Post positions on the Internet	96.9	3.6	83.1	3.4	97.1	3.2
Attend or sponsor job fairs	92.2	3.3	59.8	2.7	68.7	2.4
Provide supplements, stipends, or signing bonuses for special education positions	59.4	3.0	23.1	2.8	55.9	2.8
Provide attractive benefit packages	61.9	2.9	26.5	2.5	33.3	2.5
Contact in-state colleges and universities	96.2	2.9	68.8	2.7	88.2	2.4
Streamline the hiring process	73.6	2.9	41.4	2.6	53.3	2.1
Offer financial incentives for personnel to become certified or credentialed in special education	41.7	2.8	26.7	2.5	50.0	2.3
Send special education personnel on recruiting trips	60.9	2.7	21.8	2.6	32.2	2.5
Contact personnel in other Texas schools and agencies	83.2	2.7	67.1	2.8	79.4	2.6
Promote business partnerships to support new employees	26.4	2.3	7.6	2.2	8.8	2.5
Contact state credentialing/licensing agencies and educational associations	61.8	2.3	42.1	2.7	58.1	2.2
Contact out-of-state colleges and universities	48.8	2.3	14.1	2.0	33.3	2.5

Source. Human Resource Administrator Survey.

Note. Percentage represents districts that reported using strategy a small extent, moderate extent, or great extent (i.e., ratings 2, 3, or 4). Use and effectiveness were both rated on 4-point scale: 1=*not at all*, 2=*small extent*, 3=*moderate extent*, 4=*great extent*. Total responses for use items varied (single districts=117 to 130, SSA participant districts=217 to 231, SSAs=31 to 36). Total responses for effectiveness items varied (single districts=28 to 121, SSA participant districts=12 to 172, SSAs=2 to 31).

The strategies reported as most effective in recruiting qualified special education teachers were:

- Posting position on the Internet;
- Providing supplements, stipends, or signing bonuses;
- Sending special education personnel on recruiting trips;
- Contacting personnel in other Texas schools and agencies; and
- Providing attractive benefit packages.

Single districts were likely to use many effective recruitment strategies for teachers. They may still achieve gains in recruiting for teacher positions in critical shortage areas, by expanding strategies that were rated as relatively more effective. Strategies that might be expanded to address critical shortages in teacher positions for single districts include: offering financial incentives for personnel to become certified or credentialed; providing supplements, stipends, or signing bonuses; providing attractive benefit packages; and sending special education personnel on recruiting trips.

SSA participant districts tended to use fewer recruitment strategies and be less involved than they might have been in staffing special education teacher positions. SSA participant districts may improve their capacity to hire qualified special education teachers and professionals by utilizing a greater number of successful recruitment strategies. Two recruitment strategies had relatively high mean effectiveness ratings, but were not used by a large proportion of respondents. These additional strategies include: contacting state credentialing and licensing agencies and educational associations, and providing supplements, stipends, or signing bonuses for special education positions. Adding one of these strategies to existing recruitment efforts may increase the quality and quantity of job applicants for teacher positions, especially in areas where there are critical shortages.

SSAs tended to use a range of recruitment strategies, however, the effectiveness of some strategies was lower than that reported in single districts. For critical shortage areas among teacher positions, SSAs may strengthen applicant pools by providing supplements, stipends, or signing bonuses for special education personnel.

Recruitment Strategies for Other Special Education Professional Positions

Human administrators evaluated the same set of strategies relative to recruiting other special education professionals.

For other special education professional positions, the majority of single districts and SSAs relied on the same three recruitment strategies used for teacher positions:

- Posting positions on the Internet,
- Contacting in-state colleges and universities, and
- Contacting personnel in other Texas schools and agencies.

In recruiting other professionals, single districts also relied on attending or sponsoring job fairs, and streamlining the hiring process.

The strategies reported as most effective in recruiting other professionals who are qualified were:

- Posting positions on the Internet;
- Providing supplements, stipends, or signing bonuses;

- Attending or sponsoring job fairs; and
- Providing attractive benefit packages.

Table 11. Use and Effectiveness of Key Recruitment Strategies for Other Special Education Professionals

Recruitment Strategies	Single Districts		SSA Participant Districts		SSAs	
	Percent Using	Mean Rating	Percent Using	Mean Rating	Percent Using	Mean Rating
Post positions on the Internet	95.2	3.5	59.6	3.3	91.7	3.1
Attend or sponsor job fairs	81.1	3.2	35.4	2.9	44.1	2.0
Provide supplements, stipends, or signing bonuses for special education positions	54.8	3.2	18.2	2.9	60.0	3.2
Streamline the hiring process	69.8	2.9	31.2	2.6	53.1	1.9
Provide attractive benefit packages	58.2	3.0	19.4	2.7	45.7	2.3
Offer financial incentives for personnel to become certified or credentialed in special education	37.2	2.8	20.0	2.6	47.2	2.4
Send special education personnel on recruiting trips	50.8	2.8	20.9	2.7	27.3	2.2
Contact in-state colleges and universities	84.9	2.8	39.9	2.8	85.7	2.3
Contact personnel in other Texas schools and agencies	79.2	2.6	44.6	2.8	82.7	2.3
Contact out-of-state colleges and universities	38.7	2.6	13.4	2.2	23.5	2.3
Target retired special education personnel	48.8	2.5	26.7	2.6	64.7	2.5
Increase marketing efforts to attract bilingual personnel	59.2	2.4	25.3	2.5	50.0	2.1

Source. Human Resource Administrator Survey.

Note. Percentage represents districts that reported using strategy a small extent, moderate extent, or great extent (i.e., ratings 2, 3, or 4). Use and effectiveness were both rated on a 4-point scale: 1=*not at all*, 2=*small extent*, 3=*moderate extent*, 4=*great extent*. Total responses for use items varied (single districts=116 to 126, SSA participant districts=172 to 178, SSAs=32 to 36). Total responses for effectiveness items varied (single districts=25 to 111, SSA participant districts=12 to 89, SSAs=5 to 30).

Several strategies appeared to have potential to successfully recruit other special education professionals:

- Streamlining the hiring process,
- Offering financial incentives for personnel to become certified or credentialed in special education,
- Sending special education personnel on recruiting trips,
- Contacting in-state colleges and universities, and

Typically, the recruitment strategies appeared to be more useful for single districts and SSA participant districts, and somewhat less useful for SSAs in attracting and hiring other special education professionals.

Single districts used many different strategies for recruiting other special education professionals, however, some of the more effective strategies were less likely to be used. For example, offering financial incentives for personnel to obtain more training was perceived as more effective than a number of other strategies, yet was used by approximately one-third of the respondents. Greater emphasis on strategies rated as more effective by single districts may strengthen applicant pools for these organizations.

While a majority of SSA participant districts relied on Internet postings to recruit other special education professionals, these districts did not have a strong, common recruitment approach. In fact, there were several strategies used by 20 percent or fewer SSA participant districts. There are significant numbers of positions for other special education professionals staffed by SSA participant districts statewide, and improvements in recruitment have the potential to ameliorate critical shortages. For these districts, a small expansion of their recruitment efforts into areas reported as effective may result in significantly enhanced applicant pools. Those districts not listing positions on the Internet might begin with this very cost efficient enhancement to their recruitment program. Other strategies that were rated as effective but not used by a large proportion of SSA participant districts included: contacting in-state colleges and universities; contacting personnel in other Texas schools and agencies; providing supplements, stipends, or signing bonuses; providing attractive benefit packages; attending or sponsoring job fairs; and sending special education personnel on recruiting trips.

Staffing Strategies

Special education administrators rely heavily on paraprofessionals in staffing teacher positions. The number of vacant paraprofessional positions, combined with the degree to which districts and SSAs use these positions to compensate for shortages in teacher positions, indicates that paraprofessionals are critical to special education staffing. Future research should investigate the manner in which paraprofessionals support special education teachers. It is possible that paraprofessionals can remove some of the burden of paperwork or classroom management activities thereby allowing teachers to focus on instruction.

In addition to hiring paraprofessionals, two-thirds or more of single districts and SSAs used the following staffing strategies to address teacher shortages:

- Increase class size or case load,
- Blend funding to create inclusive settings,
- Hire retired special educators,
- Use interns from alternative certification programs, and
- Hire personnel on temporary certificates.

Table 12. Staffing Strategies Used to Address Special Education Teacher Shortages

Staffing Strategy	Single Districts - Pct. Using Strategy	SSAs - Pct. Using Strategy
Hire more special education paraprofessionals	90.4	91.8
Increase class size or case load	66.9	81.0
Blend funding to create inclusive settings	66.7	78.3
Hire retired special educators	66.1	74.2
Use interns from alternative certification programs	65.4	69.4
Use long-term certified substitutes	63.7	61.3
Hire personnel on temporary certificates	63.7	74.2
Consolidate instructional arrangements	53.9	61.3
Contract for fully certified personnel	54.0	67.7
Allow job sharing	40.4	38.3
Share service arrangements with other districts	34.4	69.8
Send students to districts where services are available	32.8	56.5
Use staff from ESCs	30.9	47.5
Use long-term uncertified substitutes	29.8	27.4

Source. Special Education Administrator Survey.

Note. Percentage represents districts that used the strategy to a small, moderate, or great extent (extent of use ratings 2, 3, or 4). Items were rated on a 4-point scale: 1=*used not at all*, 2= *used to a small extent*, 3= *used to a moderate extent*, 4= *used to a great extent*. Total responses for strategy questionnaire items varied from 174 to 181 for single districts, 59 to 63 for SSAs.

Single districts also relied on long-term certified substitutes, while SSAs contracted for fully certified personnel, and engaged in shared service arrangements to staff teacher positions.

For shortages in other special education professional positions, most of the single districts and SSAs relied on contracting for fully certified personnel. While this approach may be an effective means of addressing personnel shortages, it is possible that more cost-efficient approaches can be devised. Some examples include job sharing, and using staff from education service centers.

In addition to contracting for fully certified personnel, a majority of single districts and SSAs used the following staffing strategies for shortages of other special education professionals:

- Increase class size or case load, and
- Hire retired special educators.

SSAs also engaged in shared service arrangements to address staffing shortages in other special education professional positions.

Table 13. Staffing Strategies Used to Address Other Special Education Professional Shortages

Staffing Strategy	Single Districts - Pct. Using Strategy	SSAs - Pct. Using Strategy
Contract for fully certified personnel	89.0	95.4
Increase class size or case load	68.6	79.4
Hire retired special educators	66.1	71.9
Use interns from alternative certification programs	40.4	38.1
Allow job sharing	39.2	50.8
Blend funding to create inclusive settings	38.4	39.7
Hire more special ed. paraprofessionals	36.1	53.3
Use staff from ESCs	35.7	54.7
Hire personnel on temporary certificates	31.9	46.0
Share service arrangements with other districts	28.6	79.7
Use long-term certified substitutes	26.7	25.4
Consolidate instructional arrangements	25.0	30.6
Send students to districts where services are available	19.0	30.2
Use long-term uncertified substitutes	8.5	12.7

Source. Special Education Administrator Survey.

Note. Percentage represents districts that used the strategy to a small, moderate, or great extent (extent of use ratings 2, 3, or 4). Items were rated on a 4-point scale: 1= used not at all, 2= used to a small extent, 3= used to a moderate extent, 4= used to a great extent. Total respondents each questionnaire item varied from 163 to 173 for single districts, and from 61 to 64 for SSAs.

For both single districts and SSAs, a more diversified set of staffing strategies was used for teacher positions than for other professional positions. Given the earlier finding that the special education administrators and human resource administrators perceived greater challenges in staffing professional positions, use of a wider range of staffing strategies may be especially important.

Retaining Special Education Personnel

Retention Difficulties

Retention difficulties were more likely to be reported for professionals than for teachers. In addition, single districts and SSAs were more likely than SSA participant districts to experience difficulty in retaining special education personnel. However, even for those districts reporting less difficulty, investing in better ways to retain personnel is warranted since any improvement in retention results in a commensurate decrease in staffing shortages and recruitment efforts.

Barriers to Retention

For single districts and SSAs, work conditions rated as barriers to retention for special education teachers by three-fourths or more of the survey respondents included:

- Overwhelming amount of required paperwork,
- Job stress due to conflicting demands of the job and work overload,
- Legal complexities of working in special education,
- Insufficient prior experience working with particular disabilities,
- Lower salary and/or benefits relative to that available in other local education agencies,
- Lower salary and/or benefits relative to fields outside education, and
- Inadequate stipends or supplements for special education assignments.

For SSAs, the following also were barriers:

- Excessive case loads or class size,
- Inadequate training in core content subject areas,
- Dissatisfaction with the assignment,
- Feelings of professional isolation, and
- Geographic location of the district.

Some of these barriers may be diminished through expanded implementation of retention strategies already in place in some districts. For example, the paperwork burden may be lightened by providing teachers with reliable computer technology designed for special education reporting. District staff members may be able to serve as resources for interpreting legal requirements governing special education services.

Other barriers relate more to the human resource management function and may be addressed through recruitment strategies and the selection process. Specifically, job candidates who would enhance the existing work team, who demonstrate commitment to the profession, and who have strong experience and training may be identified through sending special education personnel on recruiting trips, or using more sophisticated employee selection devices.

Removing barriers concerning lack of support from parents and general education teachers may require more creative approaches. Furthermore, expanded avenues of communication among special education personnel may be required to strengthen feelings of connection to the professional community within a district, SSA, or region.

Some barriers may call for changes in funding priorities, such as decreasing class size and case loads. Although better compensation offered by competing organizations will always exist, changes in the structure of incentives and job assignments can potentially limit these barriers to retention as well as barriers relating to job stress and other aspects of the work itself. Release time in exchange for non-teaching responsibilities or professional development may be perceived by teachers as adequate non-monetary compensation for increased workloads.

For single districts and SSAs, the major barriers to retention for other special education professionals reported in the current study were:

- Overwhelming amount of required paperwork,
- Legal complexities of working in special education,
- Job stress due to conflicting demands of the job and work overload,
- Excessive case loads or class size,
- Multiple-campus assignments,
- Lower salary and/or benefits relative to fields outside education,
- Lower salary and/or benefits relative to that available in other local education agencies, and
- Inadequate stipends or supplements for special education assignments.

SSAs also reported the following as barriers for other special education professionals:

- Geographic location of the district,
- Attractiveness of administrative positions relative to special education assignments, and
- Feelings of professional isolation by personnel.

The major barriers to retention reported in 2001 also were reported among these retention barriers identified in the 2005 study. In addition, both teachers and other professionals shared the same barriers to retention in 2001 and in 2005. Some of these persistent barriers to retaining special education personnel may require different solutions than those currently in place.

To ameliorate threats to retaining other special education professionals who are qualified, districts and SSAs may need to provide additional support for these professionals in the areas of paperwork and legal and regulatory issues. Districts and SSAs are already utilizing special education paraprofessionals extensively. Job sharing or other creative work arrangements may address barriers relating to job stress, case loads and class size, and multiple-campus assignments. Other strategies may require changes in funding priorities such as hiring more professional personnel in educational diagnostician, speech language pathologist, and other positions, and reducing case loads or providing release time to compensate for paperwork and other non-instructional responsibilities.

The barriers that appear to be particular to SSAs may require new ways of communicating attributes and needs of special education services to general education personnel. Informed general education personnel will have a better appreciation of the valued work other special education professionals perform, and the support they need to successfully serve their students. In addition, providing pay supplements may compensate for additional non-instructional duties, or may make other special education professional positions more attractive relative to administrative positions in special education.

Use of Retention Strategies

Almost all (90 percent or more) of the single districts and SSAs used the eight strategies listed below to aid in retaining special education personnel:

- Adequate support from paraprofessionals,
- Adequate access to instructional resources and teaching materials,
- Adequate classroom space and equipment,
- Support relative to legal issues,
- Access to reliable computer technology to assist with paper work responsibilities,
- Opportunities for special education personnel in the district to meet and discuss common issues,
- Release time for professional development, and
- Informative, rather than evaluative, feedback regarding teaching.

One additional strategy was used by almost all of the SSAs:

- Mentoring programs for new special education personnel.

Most Effective Retention Strategies

All of the retention strategies investigated in the current study were effective to some extent in retaining special education personnel. The most effective retention strategies reported for single districts included providing the following:

- Adequate access to instructional resources and teaching materials,
- Release time for professional development,
- Financial support for professional development,
- Adequate classroom space and equipment,
- Adequate access to reliable computer technology to assist with paper work responsibilities,
- Adequate support from paraprofessionals,
- Support relative to legal issues,
- Clerical support to assist with paperwork responsibilities, and
- Opportunities for special education personnel within a district to discuss common issues.

The most effective retention strategies for SSAs included providing the following:

- Access to reliable computer technology to assist with paper work responsibilities,
- Adequate access to instructional resources and teaching materials,
- Financial support for professional development,
- Release time for professional development, and
- Adequate support from special education paraprofessionals.

Table 14. Retention Strategies for Special Education Personnel

Retention Strategies	Single Districts		SSAs	
	Percent Using	Mean Rating	Percent Using	Mean Rating
Adequate access to instructional resources and teaching materials	97.1	3.3	96.8	3.1
Release time for professional development	90.8	3.2	93.7	3.1
Financial support for professional development	85.0	3.2	89.1	3.1
Adequate classroom space and equipment	96.5	3.1	98.4	2.8
Access to reliable computer technology to assist with paperwork	95.4	3.1	93.7	3.2
Adequate support from paraprofessionals	97.7	3.1	98.4	3.0
Support regarding legal issues	95.9	3.1	96.9	2.9
Clerical support to assist with paperwork	72.6	3.1	90.5	2.8
Opportunities for special education personnel in district to discuss common issues	93.6	3.0	93.7	2.7
Mentoring programs for new special education personnel	85.6	2.9	95.1	2.7
Informative (rather than evaluative) feedback regarding teaching	90.7	2.8	91.5	2.6
Collaborative planning time for special education within regular schedule	79.2	2.8	85.2	2.6
Financial incentives to compensate for additional non-teaching responsibilities	52.1	2.7	50.8	2.5
Release time, or reduced case loads/ class sizes, additional non-teaching responsibilities	52.8	2.7	51.7	2.7
Financial incentives for completing additional state certification tests, college courses, adv. degrees, and/or professional development activities	47.6	2.6	47.5	2.6
Funds for merit pay for special educators	2.9	2.6	8.3	2.0
Peer coaching for experienced special education personnel	48.3	2.6	48.3	2.3
Extra planning time for special education within regular schedule	45.9	2.6	61.9	2.6
Career path opportunities for leadership positions	63.6	2.5	49.2	2.5
Fund bonuses for all faculty and staff in schools that meet certain performance criteria	9.3	2.1	8.5	2.5

Source. Special Education Administrator Survey.

Note. Percentage represents districts that reported work condition as a barrier to a small extent, moderate extent, or great extent (i.e., ratings 2, 3, or 4). Use and effectiveness were each rated on a 4-point scale: 1=*not at all*, 2=*small extent*, 3=*moderate extent*, 4=*great extent*. For single districts, total responses for each questionnaire item varied from 163 to 176; for SSAs, total responses ranged from 59 to 64.

Some of the strategies rated as more effective appear to describe basic work conditions, which may not serve to alter personnel intentions to leave the job. However, they may be critical aspects of the work environment, since teachers and other professionals lacking these basic

conditions will be more likely to consider alternative employment. For example, teachers and other professionals would expect to have adequate access to instructional resources as well as adequate classroom space and equipment. Providing better resources, space, and equipment may not serve to dissuade a teacher from leaving the job. On the other hand, not having the minimum instructional resources, space, and equipment may provide an incentive for a teacher to seek another position.

Implications of the Findings

Recruitment and Staffing Strategy Effectiveness

Barriers to hiring observed in the current study include insufficient candidates with the requisite certification or license, better compensation in other districts or competing organizations, and low salary levels. *One approach to eliminating or reducing these barriers is to implement a broader range of recruitment strategies for hiring special education personnel. Another approach might be to increase the use of stipends or supplements to attract special education personnel.* This may be critical for SSAs experiencing additional competition for qualified special education personnel from non-educational organizations. SSAs typically serve a wider geographic area than a school district, and thus there may be a variety of private agencies and hospitals seeking personnel from the same applicant pools as the districts. This approach may also be useful for school districts in close proximity to larger or better funded districts that are in competition for the same teacher applicant pools. *A third approach to eliminating or reducing barriers to hiring personnel, particularly for other special education professional positions, is to decrease the demands of the job.* This is perceived as a barrier to hiring other professionals by both districts and SSAs and merits a dedicated, creative approach. Reducing the amount of travel among campuses served by other special education professionals may also be helpful.

Retention Strategy Effectiveness

Given reports of the extensive use and moderate effectiveness of several retention strategies—providing support from paraprofessionals, providing clerical support and access to computer technology, and providing support regarding legal issues—we did not expect administrators to perceive barriers to retention in these areas. In fact, all but the clerical support strategy were used by 90 percent or more of single districts, and SSAs, and had moderate effectiveness ratings.

There are several possible explanations for the existence of several barriers—overwhelming paperwork, legal complexities, job stress, and excessive case load and class sizes—in spite of retention strategies which were designed specifically to ameliorate them, and which were used by most of the respondent districts and SSAs. We surmised that some of the strategies were being implemented for teachers or other professionals, but not both groups. Some strategies may have been implemented inconsistently or less broadly than required, resulting in less effective outcomes. In addition, the moderate effectiveness ratings reported for many of the most used retention strategies may reveal that these strategies are not adequate solutions to the retention barriers. *Thus the strategies rated as most effective by respondents may not have the capacity to*

eliminate existing retention barriers due to job-related work conditions. More creative approaches or combinations of strategies may be required to decrease special education personnel turnover in single districts as well as in SSAs.

Major barriers to retention resulting from compensation-related work conditions for teachers and other professionals included lower compensation relative to other education agencies and to fields outside education, and inadequate stipends and supplements for special education assignments. *Competition from other jobs that pay more occurs in all industries and many of the non-remunerative retention strategies used by single districts may balance an employee's attraction to other jobs that pay more.* Only half of single districts and SSAs offered stipends and supplements, and this is one area that may directly impact retention efforts because stipends can be set at levels to match salary levels with those of competing organizations.

Critical Shortages in Special Education Personnel Positions

Critical personnel shortage areas for teachers were in resource and content mastery, in working with students who have adaptive behavior issues (emotional disturbances), and to a lesser extent, in working with students who have moderate to severe disabilities. Barriers to retention that seem particularly relevant to these positions include inadequate training in core content subject areas and insufficient experience working with a variety of disabilities. *An effective retention strategy that might be used more extensively to ameliorate job-related barriers for critical shortage teacher positions is to provide financial incentives when teachers complete additional state certification tests, college courses, advanced degrees, or professional development activities.* This strategy strongly encourages the development of increased expertise in content areas among personnel. Expanding peer coaching programs for experienced teachers may also be a useful retention strategy to deal with critical teacher shortages. Teachers with classroom experience may benefit from a peer coach who has expertise working with students who have severe disabilities.

Critical personnel shortage areas for other special education professionals in single districts and SSAs were in the areas of educational diagnosticians and speech language pathologists. Key retention barriers for these positions are likely to focus on work load and multiple-campus assignment issues. *Retention strategies that may support critical shortages among other professional positions and appear to be underutilized include providing financial incentives or release time for administrative duties, such as working with the ARD committees, and providing clerical support to assist with paperwork duties.* These strategies may lighten the work load for educational diagnosticians and speech language pathologists. Staffing approaches such as job sharing may aid in decreasing a district's reliance on multiple-campus assignments.

References

- Billingsley, B.S. (2004). Special education teacher retention and attrition: A critical analysis of the research literature. *Journal of Special Education*, 38(1), 1-36.
- Billingsley, B.S. (1993). Teacher retention and attrition in special and general education: A critical review of the literature. *The Journal of Special Education*, 27(2), 137-174.
- Billingsley, B.S., & Cross, L.H. (1992). Predictors of commitment, job satisfaction, and intention to stay in teaching: A comparison of general and special educators. *The Journal of Special Education*, 25(4), 453-471.
- Brownell, M.T., & Smith, S.W. (1993). Understanding special education teacher attrition: A conceptual model and implications for teacher educators. *Teacher Education and Special Education*, 16(3), 270-282.
- Carlson, E., Brauen, M., Klein, S., Schroll, K., & Willig, S. (July, 2002). *SPenSE: Study of personnel needs in Special Education*. Key findings. Retrieved 1/21/05 from <http://www.spense.org>
- Council on Exceptional Children. A blueprint to recruit and retain special education teachers. *Council on Exceptional Children Today*, (August, 2002), 9(2) 10. Retrieved 2/14/05 from http://www.cec.sped.org/bk/cectoday/archives/august_2002/cectoday_08_2002_10.html
- Firestone, W.A., & Pennell, J.R. (1993). Teacher commitment, working conditions, and differential incentive policies. *Review of Educational Research*, 63(4), 489-525.
- Fore, C., & Martin, C. (2002). *Why do special education teachers leave the field? Possible methods to increase retention*. University of Georgia. Retrieved 2/14/05 from http://www.hiceducation.org/Edu_Proceedings/Cecil%20Fore%20III.pdf
- Gersten, R., Keating, T., Yovanoff, P., & Harniss, M.K. (2001). Working in special education: Factors that enhance special educators' intent to stay. *Exceptional Children*, 76(4), 549-567.
- Herbert, K.S., & Ramsay, M.C. (September, 2004). *Teacher turnover and shortages of qualified teachers in Texas public school districts*. Report to the State Education Committee. Austin, TX: State Board for Educator Certification.
- Ingersoll, R.M. (January, 2001). Teacher turnover, teacher shortages, and the organization of schools. Seattle, WA: Center for the Study of Teaching and Policy, University of Washington. Retrieved 2/4/05 from <http://depts.washington.edu/ctpmail/PDFs/Turnover-Ing-01-2001.pdf>

McLeskey, J., Tyler, N.C, & Flippin, S.S. (2004). The supply and demand for special education teachers: A review of research regarding chronic shortage of special education teachers. *The Journal of Special Education*, 38(1), pp. 5-21.

National Clearinghouse for Professions in Special Education (1998). *Retention of special education professionals*. Retrieved February 15, 2005 from <http://www.special-ed-careers.org/pdf/retguide.pdf>

Norton, M.S. (1999). Teacher retention: Reducing costly teacher turnover. *Contemporary Education*, 70(3), pp52-55.

Rosenholtz, S.J., & Simpson, C. (October, 1990). Workplace conditions and the rise and fall of teachers' commitment. *Sociology of Education*, 63, 241-257.

Stempien, L.R., & Loeb, R.C. (2002). Differences in job satisfaction between general education and special education teachers. Implications for retention. *Remedial and Special Education*, 23(5), 258-267.

Texas Center for Educational Research (2001). *The Statewide Study of Special Education Professionals' Personnel Needs*. Austin, TX: Texas Center for Educational Research.

Yell, M., Drasgow, E., Marshall, K., Seaman, M., & Karvonen, M. (2002). *Project respect: Retaining special education teachers*. Retrieved 2/5/05 from <http://edpsych.ed.sc.edu/respect>

ⁱ Enrollment data were missing for 2 of the 344 single, independent districts surveyed; total student enrollment for the 342 districts was 3,628,191. Total student enrollment for the 140 districts responding to the Human Resource Administrator Survey was 1,220,770. Enrollment data were missing for 1 of the 184 districts responding to the Special Education Administrator Survey; total student enrollment for the 183 districts was 2,190,304.

ⁱⁱ Total student enrollment for 695 independent districts participating in an SSA was 621,835. Total student enrollment for 288 SSA participant districts responding to Human Resource Administrator Survey was 247,131.

ⁱⁱⁱ Total student enrollment for districts participating in the 131 SSAs was 621,835. Total student enrollment for districts represented by the 42 SSAs responding to the Human Resource Administrator Survey was 201,461. Total student enrollment for districts represented by the 68 SSAs responding to the Special Education Administrator survey was 353,681.