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Teacher Recruitment and Retention: Summary of Major Studies

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PROGRAM EVALUATION DIVISION
Centennial Building - Suite 140
658 Cedar Street
St. Paul, MN 55155
Telephone: 651-296-4708 ♦ Fax: 651-296-4712
E-mail: auditor@state.mn.us ♦ Web Site: http://www.auditor.leg.state.mn.us

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OFFICE OF THE LEGISLATIVE AUDITOR
State of Minnesota • James Nobles, Legislative Auditor

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Members
Legislative Audit Commission

In May 2001, the Legislative Audit Commission directed us to examine the extent to which school districts were having problems recruiting and retaining teachers and the different strategies that they used to address their hiring concerns. As we began our evaluation, we discovered that many studies had either recently been completed or were underway that answered most of the questions that legislators raised. To avoid duplicating those efforts, the Legislative Audit Commission laid aside its original directive for a full-scale evaluation and instead directed us to summarize what is already known about teacher recruitment and retention in Minnesota. In August 2001, we presented a draft report to the commission, but, at the commission's request, postponed releasing it until additional research on teacher attrition in Minnesota became available in early 2002. This document summarizes existing research on teacher recruitment and retention in Minnesota.

According to the literature, overall teacher attrition in Minnesota is higher than the national average. As in most states, Minnesota school districts report problems hiring some types of teachers. There are also some indications that the state may not be producing enough prospective teachers in some assignment areas. Although school districts report using a variety of techniques to successfully attract and retain teachers, recruitment and retention problems may be exacerbated as increasing numbers of teachers retire in the future.

This report was researched and written by Jo Vos (project manager) and Valerie Bombach.

Sincerely,

/s/ James Nobles

James Nobles
Legislative Auditor

/s/ Roger Brooks

Roger Brooks
Deputy Legislative Auditor

Room 140, 658 Cedar Street, St. Paul, Minnesota 55155-1603 • Tel: 651/296-4708 • Fax: 651/296-4712
E-mail: auditor@state.mn.us • TDD Relay: 651/297-5353 • Website: www.auditor.leg.state.mn.us

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Teacher Recruitment and Retention: Summary of Major Studies

March 25, 2002

This document summarizes existing research on teacher attrition in Minnesota's public schools and the different strategies that school districts have used to attract and retain qualified teachers. For a more detailed presentation of the data and analysis contained in the various studies cited, we refer readers to the research reports that are listed at the end of this summary.

Minnesota Public Schools Employed Over 52,000 Full-Time Teachers in 2000-01

Minnesota school districts and charter schools employed 55,036 full-time equivalent teachers (52,293 full-time teachers) in the 2000-01 school year. According to data collected by the Department of Children, Families, and Learning, 41 percent of the state's public school teachers had earned at least a master's degree.[1] The average teacher was 41.3 years old, had 13.7 years of experience, and earned $42,794 a year in base salary as a teacher.

During the 2000-01 school year, general elementary education teachers accounted for the largest share of the teacher workforce—30 percent.[2] Special education teachers comprised the next largest share at 14 percent. English/language arts teachers made up 8 percent, and math, health/physical education, social studies, and science teachers each accounted for 5 percent. Other types of teachers, such as art, agriculture, music, and industrial arts teachers, each accounted for less than 5 percent of the teacher workforce.

According to a 2000 study, more than 80 percent of Minnesota's high school teachers who taught academic courses in 1994 were fully certified and held at least a college major in the field in which they taught.[3] Over the last few years, however, the Board of Teaching has granted an increasing number of license variances, which allow districts to use licensed teachers in assignment areas for which they are not licensed or to hire nonlicensed community experts as teachers. During the 1997-98 school year, the board issued 485 variances; by 2000-01, that number had climbed to 2,552.[4] However, the total number of variances granted represent a small portion of the overall teacher workforce—slightly less than 5 percent in 2000-01.

1 Department of Children, Families, and Learning, *Continuous Improvement Process 2000-01 School Year-Teacher Data and Class Size Data* (Roseville, MN, June 25, 2001), 22.

2 Department of Children, Families, and Learning, *Staff Salary Report by Assignment* (Roseville, MN, June 26, 2001), 1. Staff assignments are based on full-time equivalent teachers.

3 Linda Darling-Hammond, "Teacher Quality and Student Achievement: A Review of State Policy Evidence," *Education Policy Analysis Archives* 8, no. 1, (January 1, 2000), 9; http://epaa.asu.edu/epaa/v8n1/; accessed April 20, 2001.

4 Department of Children, Families, and Learning, *Continuous Improvement Process* (Roseville, MN, undated); http://children.state.mn.us/cip/statemenu.html; accessed June 20, 2001; and Department of Children, Families, and Learning, *Teacher Data*, 22.

Teacher Attrition in Minnesota Is Higher Than the National Average

A recent study of teacher attrition by the Center for School Change at the University of Minnesota estimated that 8.9 percent of Minnesota's public school teachers stopped teaching for at least one year in the 1997-98 school year.[5] Overall, 2.4 percent of the teacher workforce retired and 6.5 percent left teaching for other reasons.[6] The study noted that teacher retirements had increased over the last few years. It estimated that teacher attrition in 1993-94 was 7.9 percent, when 1.5 percent of all public school teachers retired and 6.4 percent left for other reasons. The study also examined attrition by area of the state and found that central Minnesota had the lowest attrition rate (6.7 percent) in 1997-98 while the seven county metropolitan area had the highest (9.6 percent).[7]

The most recent data available from the National Center for Education Statistics indicate a national attrition rate of 6.6 percent for public school teachers in 1994-95; about 1.8 percent of teachers nationwide retired and 4.8 percent left teaching for other reasons.[8] States in the midwest had the highest overall attrition rate for that year 8.2 percent.[9] National attrition rates also vary by assignment area. In 1994-95, attrition by assignment area ranged from a low of 1.6 percent for chemistry/physics to a high of 9.2 percent for special education-mentally retarded.[10]

Nationally, other assignment areas with lower than average attrition included reading, kindergarten, and special education-learning disabled.[11] Assignment areas with higher than average attrition were biology, English/language arts, and vocational education. The overall attrition rates for elementary and secondary teachers were 6.4 and 6.7 percent respectively.[12]

Nationally, Teaching Is One of the Most Stable Professions

Policymakers and education stakeholders have expressed concern about the seemingly high number of teachers who leave the profession within their first few years of teaching. According to data collected by the National Center for Education Statistics, about 9 percent of all public school teachers with less than one year of teaching experience and nearly 8 percent of those with one to three years of experience left teaching (for at least one year) in 1994-95.[13] Another study found that 16 percent of 1992-93 bachelor degree

5 Debra Hare and Joe Nathan, *The Need Is Now: Dealing with Minnesota's Teacher Shortages* (University of Minnesota: Center for School Change, November 1999), 12. The study defined attrition as the percentage of teachers who taught in Minnesota's public schools in 1996-97, but not in 1997-98. It excluded teachers who simply moved from one district to another in 1997-98. In addition, these data only measure attrition from one year to the next; they do not measure the extent to which teachers who left the profession in one year return to teaching in subsequent years.

6 As we discuss later, other reasons include maternity/paternity leave, illness, sabbaticals, professional development, staff reduction, alternative career, relocation to another state, substitute teaching, not offered re-employment, death, and personal reasons. Note that some of the reasons, such as maternity/paternity leave, may be temporary in nature.

7 Hare and Nathan, *The Need Is Now*, 13.

8 National Center for Education Statistics, *Characteristics of Stayers, Movers, and Leavers: Results from the Teacher Followup Survey: 1994-95* (Washington D.C.: U.S. Department of Education, May 1997), 4, 13. The center is currently processing its 2000-01 teacher followup survey and expects to release more current national data on teacher attrition by mid-2003.

9 *Ibid.,* 8.

10 National Center for Education Statistics, *Stayers, Movers, and Leavers*, 4. The national attrition rate for special education in general was 6.3 percent, similar to the national average for all assignment areas. Similar data are not readily available for Minnesota.

11 *Ibid.,* 4.

12 *Ibid*., 5.

13 *Ibid.*, 5.

recipients who started teaching in public schools after graduating from college had left the profession without returning by 1997.[14]

Other studies have examined whether the teaching profession has a higher attrition rate than other professions, especially during the first few years of employment. The National Center for Education Statistics looked at the occupational stability of bachelor degree recipients during the first four years after receiving their degree. The study found that 82 percent of the bachelor degree recipients employed as full-time teachers in April 1994 were still teaching three years later.[15] None of the other occupations examined was more stable than teaching for the first three years. For example, 66 percent of the survey respondents working full time in business-related occupations in 1994 were still doing so in 1997; 57 percent of those working full time in legal-related occupations and 53 percent in computer/technical occupations were still in those fields three years later. Furthermore, after controlling for age, gender, grade point average, and perceived professional status of the occupation, teaching remained among the most stable of occupations.[16]

The Indiana Education Policy Center at the University of Indiana studied retention rates for "new" teachers between 1995-96 and 2000-01 in each of four midwestern states, including Minnesota. The study documented the number of teachers beginning their careers in 1995-96 who (1) remained in the same school or school district for five years, (2) moved to schools in other districts, or (3) left public school teaching altogether. The study found that Minnesota's retention rate for new teachers is close to the national rate of 82 percent. Overall, about 80 percent of Minnesota teachers beginning their career in 1995-96 were still teaching five years later.[17] Minnesota's rate was the same as Wisconsin's, but was substantially higher than rates in Indiana (72 percent) and Illinois (68 percent).

The study also found that new secondary education teachers in Minnesota were more likely to leave public school teaching than elementary or special education teachers.[18] In contrast, special education teachers were more likely to move to jobs in other school districts within their first five years of teaching than were new elementary or secondary teachers. Assignment areas with the highest percentage of new teachers leaving the profession within their first five years were vocational education and science. Areas with the lowest percentage included business, social studies, and mathematics. In addition, slightly higher percentages of new elementary and secondary education teachers in districts with salaries below the statewide average left teaching within their first five years than did their counterparts in districts with above average salaries. Likewise, greater percentages of new teachers in districts with below average enrollment left teaching within their first five years than did new teachers in districts with above average enrollment.

Salary and Benefits Are Not the Major Reasons Most Teachers Leave the Profession

Several recent state and national studies have looked at the factors that influence teacher recruitment and retention, including the reasons why teachers leave the profession. Using data that the Department of Children, Families, and Learning collects annually from school districts,

14 National Center for Education Statistics, *Progress Through the Teacher Pipeline: 1992-93 College Graduates and Elementary/Secondary School Teaching as of 1997* (Washington, D.C.: U.S. Department of Education, January 2000), 47.

15 National Center for Education Statistics, *Attrition of New Teachers Among Recent College Graduates* (Washington, D.C.: U.S. Department of Education, March 2001), vii.

16 *Ibid*., viii.

17 Neil D. Theobald and Robert S. Michael, *Teacher Turnover in Illinois, Indiana, Minnesota, and Wisconsin: Who Stays, Moves, and Leaves?* (University of Indiana: Indiana Education Policy Center, February 2002), ii.

18 *Ibid*., 72.

the Center for School Change examined the reasons why teachers left the profession (for at least one year) in 1997-98. The study found that, according to school districts, 27 percent of the teachers who left did so because they retired, while 25 percent left for "personal" reasons.[19] About 11 percent left because they were not offered re-employment or were released due to staff reductions; about 9 percent left because of illness or maternity/paternity leave. Also, some of these teachers did not leave the profession altogether; about 3 percent left to become substitute teachers. The remainder of those who left did so for reasons pertaining to professional development, other career opportunities, or for miscellaneous reasons.

To date, there are no statewide studies that explain teacher attrition in Minnesota from the perspective of former teachers rather than district administrators. As part of its teacher attrition study, the Indiana Education Policy Center surveyed 75 current Minnesota teachers with five years experience about why they remained in teaching. At least 90 percent of the new teachers expressed satisfaction with each of the following job characteristics: time off during the school year, opportunities to make a significant contribution, support from colleagues, curricular freedom, and the length of the school day.[20] By contrast, less than one-half said that they were satisfied with each of the following job aspects: current salary level, potential salary level, opportunities to work with a mentor, and the amount of time required to do the job outside the regular school day.

Several national studies, however, have examined teacher attrition from the perspective of former teachers. A 1997 national study by the National Center for Education Statistics compared teachers who remained teaching with those who left the profession. The three most frequent reasons public school teachers cited for leaving the profession in 1994-95 were retirement (27 percent), pregnancy/childrearing (14 percent), and to pursue another career (12 percent).[21] Although school administrators often cite low salaries as a primary cause of teacher turnover, only 7 percent of former public school teachers cited better salary or benefits elsewhere as a main reason for leaving. About 5 percent reported that they left because they were dissatisfied with teaching as a career. Of the teachers who left because they were dissatisfied with teaching, 29 percent cited lack of recognition or inadequate support from administration as the main reason why they were dissatisfied. Student discipline problems and poor student motivation to learn were the other most frequently cited reasons for their dissatisfaction (18 percent respectively).[22] Again, a lower share of these teachers (11 percent) cited poor salary as the main reason.

Another study by the National Center for Education Statistics examined the relationship between teacher attrition and teacher satisfaction with the profession. The study found that teacher satisfaction with certain aspects of teaching is related to teacher attrition. For example, teachers who were not teaching three years after graduating from college were less likely than those who continued to teach to be "very satisfied" with the school learning environment and parent support.[23] About 26 percent of teachers who had not

19 We estimated the percentage of teachers who left due to various reasons using the attrition data contained in Hare and Nathan, *The Need Is Now*, 12. The Department of Children, Families, and Learning's data collection system uses predefined categories for reporting teacher attrition; it does not include a specific category for salaries and benefits.

20 Theobald and Michael, *Teacher Turnover in Illinois, Indiana, Minnesota, and Wisconsin*, 75.

21 National Center for Education Statistics, *Stayers, Movers, and Leavers*, 13.

22 *Ibid.,* 15.

23 National Center for Education Statistics, *Progress Through the Teacher Pipeline*, 43.

participated in an induction program left teaching within three years of entering the profession, compared with 15 percent who had participated in such a program.[24] Overall, the three most frequent reasons former teachers gave for leaving the profession were that they wanted to pursue a career outside education (25 percent), they were not interested in teaching (19 percent), or they were dissatisfied with the salary and benefits (10 percent).[25]

The study also examined the impact of class size and workload on attrition rates. It found that full-time general elementary teachers who left teaching within three years of graduating were not, on average, responsible for more students than those who were still teaching; they were also no more likely to report difficult workloads.[26] In addition, single subject teachers who left teaching were no more likely than single subject teachers who stayed to say they had more difficult workloads than their peers.

Minnesota May Not Be Producing Enough Teachers in Some Assignment Areas

Policymakers have questioned whether there is an adequate supply of available teachers to meet current demands and whether Minnesota's teacher education programs are producing enough teachers to meet future demands. Overall, there are more individuals who are licensed to teach than there are teacher positions. In 1999, the number of teacher licenses held was nearly twice the number of public school teacher positions in the state (approximately 96,000 licenses compared with 55,000 full-time equivalent positions).[27] According to a recent study by the College of Education at the University of Minnesota, teacher preparation programs in the state estimated that they produced about as many graduates overall as there were openings for teachers for the 1997-98 school year.[28] However, not all prospective teachers go into teaching. A 2000 study by the National Center for Education Statistics found that only 58 percent of the 1992-93 college graduates who majored in education nationwide had actually become teachers by 1997.[29] Another 26 percent had become certified to teach, had applied for a teaching position, or had considered becoming a teacher. College graduates who majored in education but did not go into teaching most often said that they were no longer interested in teaching, had not taken or passed a necessary examination, or needed more education.[30] A low percentage of graduates attributed their decision not to go into teaching to low salaries or more lucrative job offers in other occupational fields.

Researchers have noted that the number of teachers being prepared is less problematic than the distribution of those teachers by assignment area, ethnicity, and their willingness to work in certain geographic areas.[31] For example, a recent study by the Center for School Change compared the number of individuals graduating from teacher education programs in 1997-98 with the number of teachers that were projected to leave teaching in the 1998-99 school year.[32] That study found that the projected demand for teachers in Minnesota exceeded the estimated supply of teachers in the following areas: home economics, mathematics,

24 *Ibid.,* 49.

25 *Ibid*., 51.

26 *Ibid.*, 39-42.

27 Steven Yussen, Jane Grey Browning, and Jeanette Colby, *District and Stakeholder Perspectives on Teachers for Our Schools* (University of Minnesota: College of Education and Human Development, Fall 1999), 1.

28 *Ibid*., 43.

29 National Center for Education Statistics, *Progress Through the Teacher Pipeline*, 12.

30 *Ibid*., 20.

31 Hare and Nathan, *The Need Is Now*, 4.

32 Nathan, Hare, and Cheung, *Asking the Right Questions,* 23. Using national data for midwestern states, the study assumed a 6 percent nonretirement attrition rate in all assignment areas. Actual nonretirement attrition rates may vary by assignment area.

industrial arts, physics, and chemistry. On the other hand, teacher education programs were likely producing an abundant supply of teachers in several areas, including general elementary education, special education, and kindergarten/prekindergarten. However, as we discuss later, districts have problems hiring some types of teachers, such as special education, even though adequate numbers of potential teachers have likely graduated from various teacher education programs.

Minnesota's problems are similar to those of other midwestern states. In a recent survey by the American Association for Employment in Education, college administrators in the midwest said that the following assignment areas had considerable shortages of qualified applicants to meet job demands in 1999: computer science, mathematics, chemistry, physics, technology, and special education.[33] College administrators in midwestern states rated these assignment areas as slightly more problematic than administrators did nationally. Areas considered to have a surplus of applicants in the midwest included health, physical education, and social studies. Areas where applicants and job openings were fairly balanced in midwestern states included business, kindergarten/prekindergarten, elementary and intermediate education, English/language arts, and speech.

Most Districts Have Problems Hiring Some Types of Teachers

Several recent studies document the problems that school districts have recruiting and retaining qualified teachers. In response to legislation adopted in 1999, the Department of Children, Families, and Learning surveyed all school districts and charter schools to identify which assignment areas were the most difficult to fill.[34] Although turnover among teachers at the district level varied by assignment area, school districts reported the most problems finding teachers for the following areas: emotional/behaviorally disturbed (E/BD), learning disabled (LD), mathematics, English as a second language (ESL), and Spanish.[35] When asked how much difficulty they expected to have hiring teachers in the future (2001-03), superintendents most frequently said that filling vacancies in the following assignment areas would be "very difficult:" E/BD, mathematics, technology, Spanish, LD, and science.[36] A 2000 survey of superintendents for Education Minnesota also found superintendents anticipating problems hiring special education, mathematics, science, and technology teachers.[37]

Earlier studies generally support these findings. A 1999 study of school district staff and education stakeholders by the College of Education at the University of Minnesota reported that districts had problems filling mathematics, science, and technology (including vocational-technical education) positions at the secondary level, and special education and ESL positions at all levels.[38] Although district staff reported a surplus of qualified applicants for general elementary education positions, they indicated a shortage of qualified applicants for elementary specialty areas such as library, music, language, and technology.[39]

In a 1999 study by the Center for School Change, 92 percent of the state's principals surveyed reported a serious shortage of qualified applicants in at least one assignment area—most frequently E/BD, industrial arts, mathematics, physical

33 American Association for Employment in Education, *Educator Supply and Demand in the United States* (Columbus, OH, 2001), 9.

34 *Minn. Laws* (1999), ch. 241, art. 9, sec. 31.

35 Department of Children, Families, and Learning, *Teacher Supply and Demand* (Roseville, MN, 2001), 2.

36 *Ibid*., 3.

37 Alan Secrest, Cooper & Secrest Associates, Inc., to Interested Parties, *Mail Survey Among Minnesota School Superintendents*, January 3, 2001, draft advisory memorandum, 4.

38 Yussen, Browning, and Colby, *Teachers for Our Schools*, 4.

39 *Ibid*., 5.

science, or elementary library.[40] The extent to which principals reported shortages in other assignment areas varied by type of school. For example, most schools in rural areas reported difficulty finding business and family/consumer science teachers; and most schools other than those in urban areas had problems hiring ESL teachers.[41] In the previously cited study by the College of Education, district staff often said that the highest quality applicants do not seriously consider taking jobs in rural districts.[42]

Finally, educators are concerned about the lack of teachers of color, especially in light of the increasing diversity of the student population. Another study by the Center for School Change found that over three-fourths of the state's principals in urban and suburban areas reported serious shortages of teachers of color; about one-half of school principals in rural areas also reported shortages.[43]

Studies lay out several reasons why Minnesota school districts have problems hiring and retaining teachers. In a recent report from the Department of Children, Families, and Learning, superintendents identified salary constraints and competition with the private sector as factors influencing teacher supply and demand in certain assignment areas.[44] In a 1999 study by the College of Education, focus groups of policymakers, education leaders, and teachers identified several reasons why districts have problems filling vacancies, including unsatisfactory working conditions, low salaries, competition for teaching positions with private sector jobs, poor public image of teaching, and lack of support from administration and the local community.[45] Finally, according to a 1999 Center for School Change report, special education directors said that many teachers leave special education assignments due in part to increased paperwork, difficulty dealing with parents, increased caseloads, and stress/burn-out.[46]

Projected Retirement Rates May Exacerbate Hiring Problems in Certain Assignment Areas and Regions of the State

According to estimates in a 1999 study by the Center for School Change, approximately 20,000 full-time equivalent teachers—more than one-third of the state's current teacher workforce—are projected to retire between 1998 and 2008.[47] Furthermore, the assignment areas that districts are currently having problems filling will be faced with even greater demands. Sixty percent of the state's chemistry teachers, 53 percent of the physics teachers, and 46 percent of the mathematics teachers are projected to retire between 1998 and 2008.[48]

Another 1999 study by the Center for School Change examined projected retirement rates by region and found that some areas of the state may be especially hard hit. Projected retirement rates across all assignment areas range from a low of 29 percent in east central Minnesota to a high of 46 percent in northeastern Minnesota.[49] However, all of central Minnesota's current chemistry teachers and 95 percent of its physics teachers are projected to retire by 2008. About 58 percent of the current mathematics teachers in both southwest

40 Hare and Nathan, *The Need Is Now*, 6.

41 *Ibid*., 7.

42 Yussen, Browning, and Colby, *Teachers for Our Schools*, 28.

43 Hare and Nathan, *The Need Is Now,* 8.

44 Department of Children, Families, and Learning, *Teacher Supply and Demand*, 5; Appendix, 3-8.

45 Yussen, Browning, and Colby, *Teachers for Our Schools*, 16.

46 Nathan, Hare, and Cheung, *Asking the Right Questions,* 25.

47 *Ibid*., 12.

48 *Ibid*., 15.

49 Hare and Nathan, *The Need Is Now,* 17.

and south central Minnesota are projected to retire by 2008.

More School Districts Use Administrative Rather Than Financial Strategies to Recruit and Retain Teachers

Recent studies by the Center for School Change examined school districts' recruitment and retention practices in Minnesota. A 2000 survey of superintendents found that districts use the following recruitment or retention strategies most frequently: hiring teachers under temporary licenses (71 percent); involving teachers in decision making (69 percent); improving staff development (63 percent), and offering support to new teachers (59 percent).[50] About one-half of the districts responding said that they increased compensation for new or current teachers as a strategy. While nearly one-half of the districts reported that they have aggressively recruited from teacher preparation programs, less than one-fifth have established a school-university partnership. According to a 1998 study by the Center for School Change, about 70 percent of Minnesota superintendents said they had not been invited to speak with a college class for prospective teachers in the last year.[51] In addition, most principals and superintendents (59 percent) reported that they had not met with college professors in the last three years to discuss how to improve teacher preparation.

In an earlier study, the Center for School Change surveyed elementary and secondary school principals in Minnesota about the strategies they used to attract high-quality applicants. The three most common strategies, each used by less than one-third of the principals, involved issuing alternative or emergency licenses, providing higher than entry-level salaries, and training paraprofessionals.[52]

The Center for School Change also surveyed superintendents in six other midwestern states in 2000 about their recruitment and retention strategies. Survey results show that 71 percent of Minnesota superintendents reported using temporary licenses to recruit teachers, compared with 58 percent regionally.[53] Similarly, nearly one-half of Minnesota superintendents reported that they increased pay for new teachers compared with one-third of the superintendents in the region.[54] Minnesota superintendents were also more likely to give salary credit for nonteaching experience (33 percent) or give high demand teachers above entry level salary (35 percent) than superintendents regionally (20 percent respectively).[55] On the other hand, midwest superintendents were slightly more likely than Minnesota superintendents to say that they offered support to beginning teachers (66 percent compared with 59 percent) or that they improved staff development (71 percent compared with 63 percent).

Recruitment and Retention Strategies Vary by Type of District and Assignment Area

Although issuing alternative or emergency licenses is the most frequently cited strategy for addressing schools' recruitment and retention

50 Debra Hare and James Heap, *Effective Teacher Recruitment and Retention Strategies in the Midwest: Who Is Making Use of Them* (University of Minnesota: School for Social Change, May 2001), Appendix, 11, 12, 20.

51 Joe Nathan, Stella Cheung, and Debra Hare, *Improvements Are Needed: Minnesota Principals, Superintendents, and Parent/Community Advocates Assess Teacher Preparation* (University of Minnesota: Center for School Change, December 1998), 9.

52 Hare and Nathan, *The Need Is Now,* 21.

53 Hare and Heap, *Effective Teacher Recruitment and Retention Strategies*, Appendix, 20. The study surveyed superintendents in Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin.

54 *Ibid*., Appendix, 11.

55 *Ibid*., Appendix, 20.

problems, principals from urban schools reported using this strategy at twice the rate of principals from small rural schools (60 percent compared with 32 percent).[56] According to a recent report by the Department of Children, Families, and Learning, districts most often obtained licensure exceptions to fill science, mathematics, E/BD, and LD vacancies.[57] Also, about 64 percent of Minnesota districts reported that they have a new teacher support program, although a larger percentage of suburban rather than rural districts have one (89 percent compared with 59 percent).[58] Only 46 percent of districts with less than 1,000 students reported having such a program.[59]

Finally, in a 1999 survey of school principals by the Center for School Change, more than one-half of principals in urban schools reported training paraprofessionals to resolve shortages, compared with less than one-quarter of principals in other types of schools.[60] While one-third of principals in urban and suburban schools reported placing high-demand candidates higher on the salary schedule, only 20 percent of principals in rural city schools reported doing so. However, higher percentages of principals in small rural schools (14 percent) than suburban schools (8 percent) reported that they retrained current staff to fill high-need areas.

Most Districts Say That Their Recruitment and Retention Strategies Are Successful

According to two recent Center for School Change studies, most district and school administrators believed that the various strategies they used were at least "moderately successful" in recruiting or retaining teachers. For example, about one-half of all Minnesota superintendents that retrained current staff, recruited from teacher preparation programs, or offered support to beginning teachers reported that these strategies were moderately successful; more than 40 percent rated these as "very successful."[61] About one-half said that their new teacher support programs were moderately or very successful in reducing teacher attrition.[62] More than 40 percent of superintendents rated flexible salary options, such as placing high-demand teacher salaries above entry level, as very successful recruitment strategies; less than 5 percent rated these as "not very successful." In contrast, of those superintendents that used periodic financial rewards, such as performance or signing bonuses, one-third or fewer indicated that these were very successful strategies for recruiting or retaining teachers, while nearly one-quarter rated these as not very successful.[63]

A 1999 study by the Center for School Change surveyed elementary and secondary school principals throughout Minnesota. When asked about the effectiveness of their strategies for addressing teacher shortages, more than three-fourths rated the three most commonly used strategies (alternative licensure options, setting high-demand teachers' salaries above entry level, and training paraprofessionals) as "modestly successful" or "very successful."[64] Overall, urban schools said these strategies were more successful than other types of schools, with most rating them very successful. Although fewer principals said

56 Hare and Nathan, *The Need Is Now*, 21.

57 Department of Children, Families, and Learning, *Teacher Supply and Demand*, 4; Table 2, 2-4. According to the Department of Children, Families, and Learning, about 10 percent of all individuals teaching special education were teaching under licensure exceptions or with provisional/limited licenses in 1999-2000.

58 Hare and Heap, *Effective Teacher Recruitment and Retention Strategies*, Appendix, 5.

59 *Ibid*., Appendix, 6.

60 Hare and Nathan, *The Need Is Now*, 21.

61 Hare and Heap, *Effective Teacher Recruitment and Retention Strategies*, Appendix, 22.

62 *Ibid.,* Appendix, 10.

63 *Ibid.,* Appendix, 15, 16, 22.

64 Hare and Nathan, *The Need Is Now*, 21.

that they retrained current staff or awarded salary credit for nonteaching experience, they also rated these strategies at least modestly successful.[65]

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65 *Ibid*., Appendix.

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Game and Fish Fund Special Stamps and Surcharges, Update, January 1994 94-01
Performance Budgeting, February 1994 94-02
Psychopathic Personality Commitment Law, February 1994 94-03
Higher Education Tuition and State Grants, February 1994 94-04
Motor Vehicle Deputy Registrars, March 1994 94-05
Minnesota Supercomputer Center, June 1994 94-06
Sex Offender Treatment Programs, July 1994 94-07
Residential Facilities for Juvenile Offenders, February 1995 95-01
Health Care Administrative Costs, February 1995 95-02
Guardians Ad Litem, February 1995 95-03
Early Retirement Incentives, March 1995 95-04
State Employee Training: A Best Practices Review, April 1995 95-05
Snow and Ice Control: A Best Practices Review, May 1995 95-06
Pollution Control Agency's Use of Administrative Penalty Orders, Update July 1995 95-07
Development and Use of the 1994 Agency Performance Reports, July 1995 PR95-22
State Agency Use of Customer Satisfaction Surveys, October 1995 PR95-23
Funding for Probation Services, January 1996 96-01
Department of Human Rights, January 1996 96-02
Trends in State and Local Government Spending, February 1996 96-03
State Grant and Loan Programs for Businesses February 1996 96-04
Post-Secondary Enrollment Options Program, March 1996 96-05
Tax Increment Financing, March 1996 96-06
Property Assessments: Structure and Appeals, A Best Practices Review, May 1996 96-07
Recidivism of Adult Felons, January 1997 97-01
Nursing Home Rates in the Upper Midwest, January 1997 97-02
Special Education, January 1997 97-03
Ethanol Programs, February 1997 97-04
Statewide Systems Project, February 1997 97-05
Highway Spending, March 1997 97-06
Non-Felony Prosecution, A Best Practices Review, April 1997 97-07
Social Service Mandates Reform, July 1997 97-08
Child Protective Services, January 1998 98-01
Remedial Education, January 1998 98-02
Transit Services, February 1998 98-03
State Building Maintenance, February 1998 98-04
School Trust Land, March 1998 98-05
9-1-1 Dispatching: A Best Practices Review, March 1998 98-06
Minnesota State High School League, June 1998 98-07
State Building Code, January 1999 99-01
Juvenile Out-of-Home Placement, January 1999 99-02
Metropolitan Mosquito Control District, January 1999 99-03
Animal Feedlot Regulation, January 1999 99-04
Occupational Regulation, February 1999 99-05
Directory of Regulated Occupations in Minnesota, February 1999 99-05b
Counties' Use of Administrative Penalties for Violations of Solid and Hazardous Waste Ordinances, February 1999 99-06
Fire Services: A Best Practices Review, April 1999 99-07
State Mandates on Local Governments, January 2000 00-01
State Park Management, January 2000 00-02
Welfare Reform, January 2000 00-03
School District Finances, February 2000 00-04
State Employee Compensation, February 2000 00-05
Preventive Maintenance for Local Government Buildings: A Best Practices Review, April 2000 00-06
The MnSCU Merger, August 2000 00-07
Early Childhood Education Programs, January 2001 01-01
District Courts, January 2001 01-02
Affordable Housing, January 2001 01-03
Insurance for Behavioral Health Care, February 2001 01-04
Chronic Offenders, February 2001 01-05
State Archaeologist, April 2001 01-06
Recycling and Waste Reduction, January 2002 02-01
Minnesota Pollution Control Agency Funding, January 2002 02-02
Water Quality: Permitting and Compliance Monitoring, January 2002 02-03
Financing Unemployment Insurance, January 2002 02-04
Economic Status of Welfare Recipients, January 2002 02-05
State Employee Health Insurance, February 2002 02-06
Teacher Recruitment and Retention: Summary of Major Studies, March 2002 02-07
Local E-Government: A Best Practices Review, April 2002 02-08
Managing Local Government Computer Systems: A Best Practices Review, April 2002 02-09

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