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ABSTRACT

A survey of Minnesota principals examined shortages of high quality teachers in Minnesota, variations across subject areas and geographic regions of the state, and the particular difficulties of teacher recruitment in rural schools. Survey responses were received from 710 principals, including 396 in small rural schools. More than 90 percent of principals reported a serious shortage of strong teacher candidates in at least one curriculum area. There was not a shortage of strong candidates overall; the largest shortages were in math, science, special education for emotional/behavioral disorders, and industrial arts. There was also a shortage of teachers of color in urban, suburban, and rural schools. Rural schools were not significantly more likely to face teacher shortages, in general, but shortages in some subject areas varied by region and rurality/urbanicity. In 1997-98, 73 percent of the teachers leaving the profession left for reasons other than retirement, and principals were much more likely to describe the average teacher leaving the profession as effective or highly effective rather than ineffective. Projected retirements in math, physical science, and industrial arts will exacerbate an already bad situation, especially in rural areas. Recruitment and retention strategies used by districts are listed, as well as recommendations to state policymakers. (Contains 16 references, the survey questionnaire, and many figures and data tables.) (SV)

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and DEVELOPMENT

THE NEED IS NOW

Dealing with Minnesota's Teacher Shortages

by Debra Hare and Joe Nathan
Center for School Change
Hubert H. Humphrey Institute of Public Affairs
University of Minnesota

Seeking Solutions for Greater Minnesota's Future

Located on the campus of Minnesota State University, Mankato, the Center for Rural Policy and Development is a private, not-for-profit, research organization dedicated to the study of the social, economic and cultural forces that impact rural Minnesota. The Center's mission is:

"To provide state government and other policy makers an unbiased evaluation of issues from a rural perspective to benefit Minnesota."

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By Debra Hare and Joe Nathan

November 1999

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We also wish to express sincere gratitude to:

- The 710 principals from throughout Minnesota who took time out of very hectic schedules to complete our survey.
- Inhyuck Ha, an independent consultant, who performed all programming and data analysis of the state's STAR data for both retirement and overall attrition projections.
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- Steve Yussen, Dean of the University of Minnesota's College of Education, and his colleagues, who willingly shared questions they asked in their survey of school districts. This study builds on their research by using some of the same and some different questions.

This report would not have been possible without the expertise of these people. However, all errors are the responsibility of the authors.

We welcome your reactions, suggestions and comments. Please contact the authors at the Center for School Change, 234 Humphrey Center, 301 19th Avenue South, Minneapolis, Minnesota 55455, 612-626-1834.

EXECUTIVE SUMMARY

Hundreds of Minnesota urban, suburban and rural principals had major problems when they tried to hire strong teachers for the current school year. Their experiences and their suggestions about what should be done to attract and retain strong teachers open this report. We offer the views of 710 Minnesota public school principals, representing schools serving more than 50% of Minnesota public school students.

More than 90% of the principals reported a serious shortage of strong candidates in at least one curriculum area. Thus, the possible future shortage of teachers discussed in several recent reports is not just a projection. It's a reality, now, today.

Principals confirm that there is not an overall shortage of strong candidates. The largest number of shortages are in fields such as math, science, special education and industrial arts, as well as teachers of color. In addition, more than 4,000 Minnesota teachers a year are leaving the profession before retirement. Principals are much more likely to describe the average teacher leaving the profession as effective or highly effective (57%), rather than ineffective (6%).

Principals made several suggestions about what should be done. The Center agrees with the more than 80% of the principals responding who endorsed:

- Loan forgiveness and scholarships for people entering high need fields of teaching
- Creation of mentor programs to help retain people once they enter teaching
- Higher placement on salary schedules for people with specialties in high demand
- Greater flexibility of salary schedules

This report notes that the state has not made improving student achievement the highest priority of public education. This has led to significant problems in attracting and retaining enough strong teachers.

The Center recommends that the state continue to create strong incentives for school districts to improve their programs. The report concludes with eight key recommendations. Our single, strongest recommendation is that the Legislature take further steps to create a public education system which makes it imperative for school systems to attract and retain excellent teachers. At best, our political and economic systems reward creativity and competence, while penalizing mediocrity and failure. Our public education system should do the same. This means, for example, we should

- Hold individual schools accountable for measurable improvement over three-five years.
- Give individual schools 80-90% of the resources and more authority to make key decisions about staffing and salary levels, so that they can make the needed improvements.
- Encourage school boards to see themselves not only as employers of people in schools, but as organizations which can contract with groups of educators for services, just as school districts often contract for transportation, testing and other services.

We also recommend that the state recognize unique problems of retaining educators who work with disabled students. We urge creation of a state group - and possibly a national group - which develops recommendations about ways to make special education teaching more rewarding.

One expert compares public education to a pool with a large leak. Just putting more water into the pool, or simply attracting more bright, talented people to the profession, won't solve the problems. We urge plugging the leak to attract and retain the excellent educators every Minnesota student needs.

INTRODUCTION

Much has been written in national and local media about an impending teacher shortage during the next decade. Research published in March 1999 by the Center for School Change revealed no overall shortage of teachers in Minnesota, but shortages in some curriculum areas such as special education, physical science, math and industrial arts.[1] National researchers have agreed, contending that the issue is not the number of teachers being prepared (which in most cases is overly abundant) but the distribution of those teachers by teaching area, their ethnicity and their willingness to work in geographic areas where they are most needed. [2 3]

The issue of teacher supply and demand is more complicated than just matching numbers. It is not sufficient to have just anyone teaching our state's children. They *all* deserve high quality teachers. Research shows that the most important predictor of student success is not race and income, but the quality of the teacher.[4]

With these issues in mind, the Minnesota Center for Rural Policy and Development provided funding for the Center for School Change to conduct research addressing these critical questions:

- Is there now a lack of *high quality applicants* for teaching positions in Minnesota? Does the supply of high quality applicants vary across geographic regions of the state? Specifically, are rural schools having more difficulty attracting high quality teachers than other parts of the state?

- Does the number of high quality applicants vary by teaching area? Are schools receiving fewer high quality applicants in "shortage" areas such as math, science, and special education? Are rural schools having difficulty finding high quality applicants for the same curriculum areas as other parts of the state?

- What do we know about retention of teachers in Minnesota? How many teachers are leaving before retirement? Why are they leaving? Do attrition rates vary across regions of the state? Are the most effective or least effective teachers leaving?

- How will projected retirements affect different parts of the state? Will some geographic regions and teaching areas be harder hit than others? What impact will this have on shortage areas?

- What strategies are schools and districts currently using to attract new, high-quality applicants? How successful have these strategies been?

- Which state level policies should be pursued to address shortages of high quality applicants for teacher vacancies?

In the first section of the report, we discuss the results of a survey which assesses the number of high quality applicants for teacher vacancies in the fall of 1999. Section Two of the report examines reasons for shortages such as retention of current teachers; teachers retiring; and the quality of teacher preparation. The third section of the report looks at strategies being employed at the local level and opinions about possible state and district level solutions. The final sections list key findings and provide recommendations.

SECTION ONE
CURRENT SUPPLY OF HIGH QUALITY APPLICANTS FOR TEACHING POSITIONS IN MINNESOTA

This section attempts to answer several critical questions about Minnesota's schools. Is there now a lack of *high quality applicants* for teaching positions in Minnesota? Does the supply of high quality applicants vary across geographic regions of the state or by teaching area? Specifically, are rural schools having more difficulty attracting high quality teachers than other parts of the state? Are high quality applicants less prevalent in certain curriculum areas? After a brief review of methodology and study limitations, a number of key findings are presented.

Methodology

On September 15,1999, the Center for School Change sent a 2 page survey and a cover letter to every public school principal in the state of Minnesota. The full survey and cover letters urging participation from the Minnesota Elementary School Principals' Association and the Minnesota Association of Secondary School Principals are included the Appendix. Principals were asked to respond by September 30, 1999.

Section A of the survey asked principals to assess the number of high quality applicants they had for 1999-2000 school year vacancies in specific teaching areas. On the survey, high quality applicant was further defined as "people you feel very comfortable hiring". Respondents ranked the supply of high quality applicants on a five-point scale from "serious shortage" to "large surplus." If the school had no vacancies in a particular teaching area, the principal was asked to leave that area blank.

In Section B, principals were asked to assess the diversity of their applicant pools, ranking the number of minority applicants on a scale of "serious shortage" to "considerable surplus." An option of "Not an Issue for Us" was also available. Section C addressed the issue of teacher retention. Survey respondents were asked to think about the teachers who have left their school for reasons other than maternity/paternity in the past five years and rate their effectiveness in the classroom on average. Finally in Section D, possible solutions were explored.

Of the 1,583 principals who received surveys, 701 principals initially responded. The Center conducted follow-up phoning and increased the response rate to 710. The 710 surveys were entered and analyzed using Microsoft ACCESS and SPSS.

The table below describes administrator response rates for school regions. Table 1 explains the number and percentage of schools from small rural areas, rural cities, suburban areas and urban areas responding to the survey and the number and percentage statewide. Urban schools were defined as those in Minneapolis and St. Paul; suburban schools as those in the seven county metro area not including Minneapolis and St. Paul; schools in rural cities were defined as those in the counties containing St. Cloud, Duluth, Rochester and Mankato; and all other schools were defined as small rural. In the sample, urban schools are slightly under-represented and small rural schools are slightly over-represented.

Table 1: Sample by School Region

	Small Rural	Rural Cities	Suburban	Urban
Number of Schools Responding to the Survey (% of respondents)	396 (56%)	80 (11%)	182 (26%)	52 (7%)
Number of Schools Statewide (% statewide)	813 (51%)	177 (11%)	428 (27%)	168 (11%)

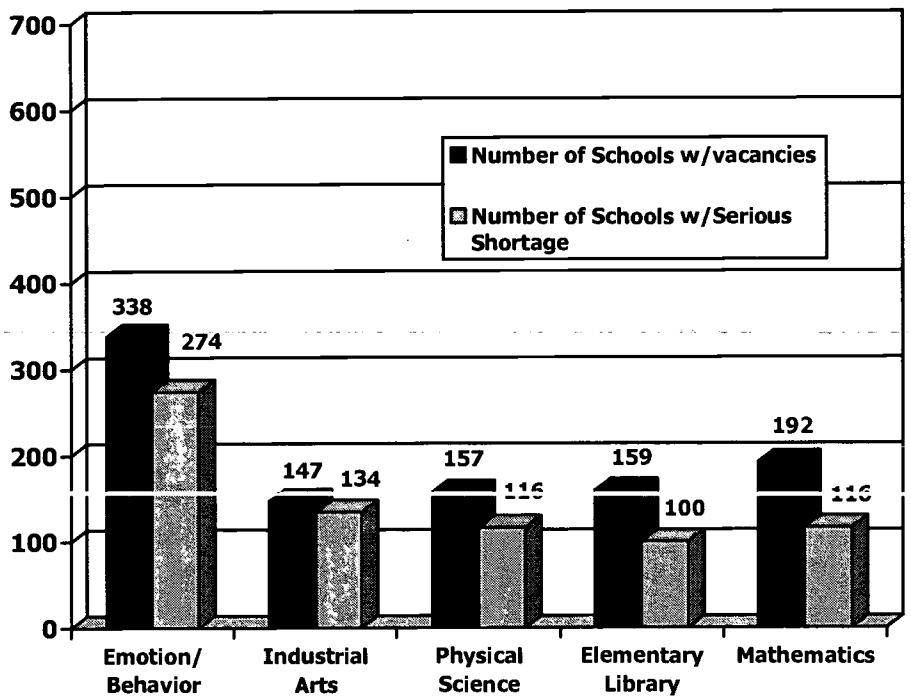
Limitations

The results of the survey are limited by the sample, response rates and the survey instrument. First, the sample was designed to include all Minnesota public school principals rather than a random sample. Second, the sample is slightly un-representative based on region as outlined in the previous section. Third, because there are a relatively small number of schools in rural cities and urban areas (where schools, particularly secondary schools, can be quite large), the number of surveys from these areas is also small. Finally, the results are limited by the questions included and the way the questions were asked in the survey. For example, the number of actual vacancies in a particular teaching area cannot be ascertained based on the way the question was asked, only the number of schools that had at least one vacancy.

Results

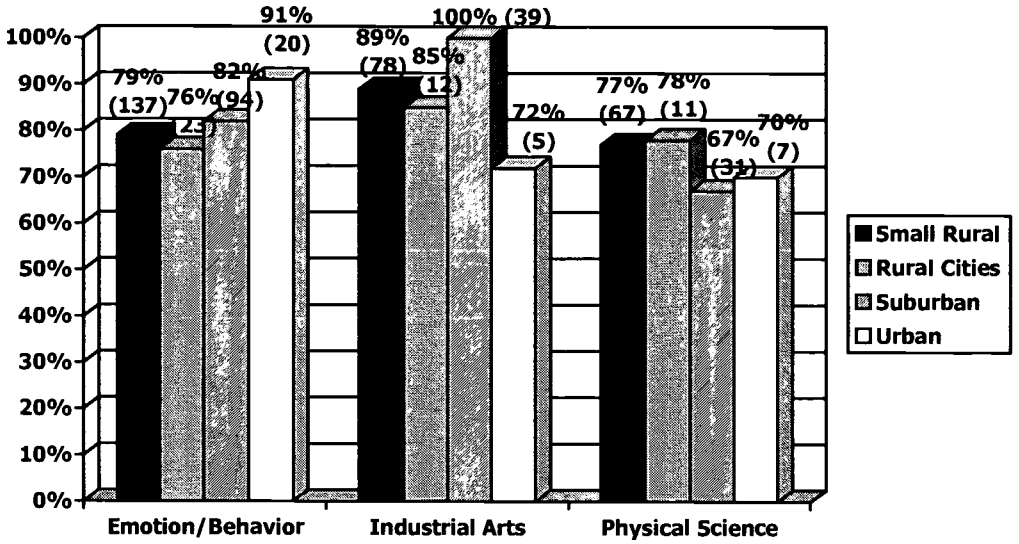
Principals across the state indicated wide spread shortages of applicants they felt very comfortable hiring. *In fact, 92% of the respondents indicated a serious shortage in at least one teaching area.* Shortages showed up in all regions of the state and in all grade levels. Areas with the largest numbers of schools showing vacancies and serious shortages are outlined in Figure 1 below. Of the 710 schools responding 338 reported vacancies in the area of Emotional/ Behavioral Disorders and 274 of those indicated a serious shortage of highly qualified candidates. In the area of Mathematics, 192 schools who responded cited vacancies with 116 finding serious shortages. One hundred and fifty-seven responding schools had vacancies in the area of Physical Science and 116 of those reported serious shortages. Schools also reported shortages in the area of Industrial Arts -- 147 schools out of the 710 responding indicated vacancies and 134 reported serious shortages.

Figure 1: Number of Responding Schools with Vacancies and with Serious Shortages of High Quality Applicants



In some teaching areas, widespread shortages were reported across the state. In the areas of Emotional/Behavioral Disorders, Physical Sciences and Industrial Arts, the number of schools indicating serious shortages of high quality candidates is similarly high in small rural, rural cities, suburban and urban schools.

Figure 2: Percentage and Number of Responding Schools with Vacancies Reporting Serious Shortages in All Regions



In other teaching areas, the percentage of schools indicating serious shortages varied from region to region. For example at the secondary level, the percentage of responding schools that reported a serious shortage in the area of Mathematics varied from 94% in urban schools to 38% of schools in small rural cities. In Figures 3 and 4 below, the teaching areas in which at least one region of the state reported shortages in excess of 65% and shortage levels varied among regions are illustrated.

Figure 3: Percentage and Number of Responding Secondary Schools with Vacancies Reporting Serious Shortages (Business, ESL, Family/Consumer Science, Mathematics)

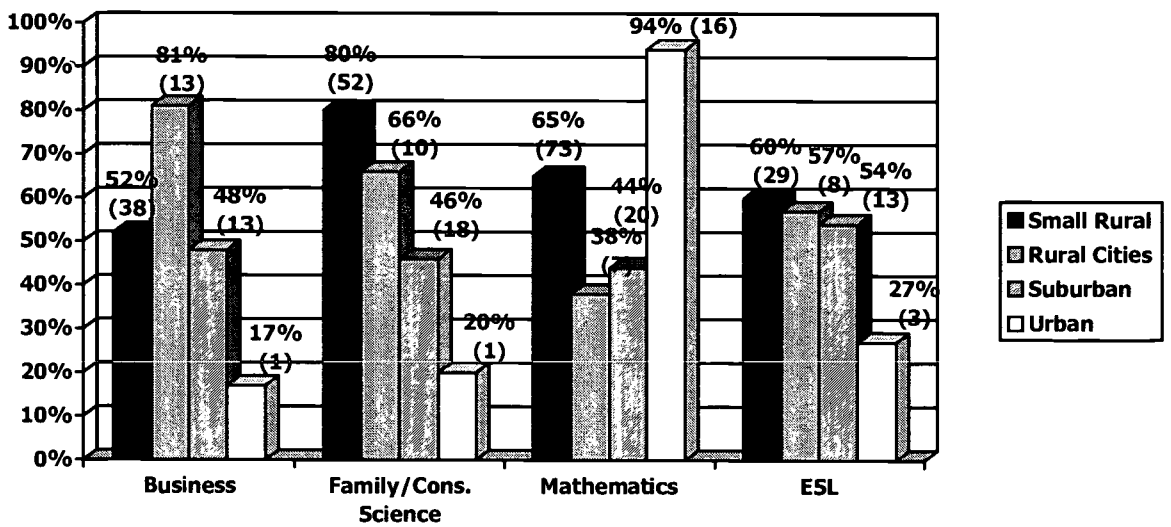
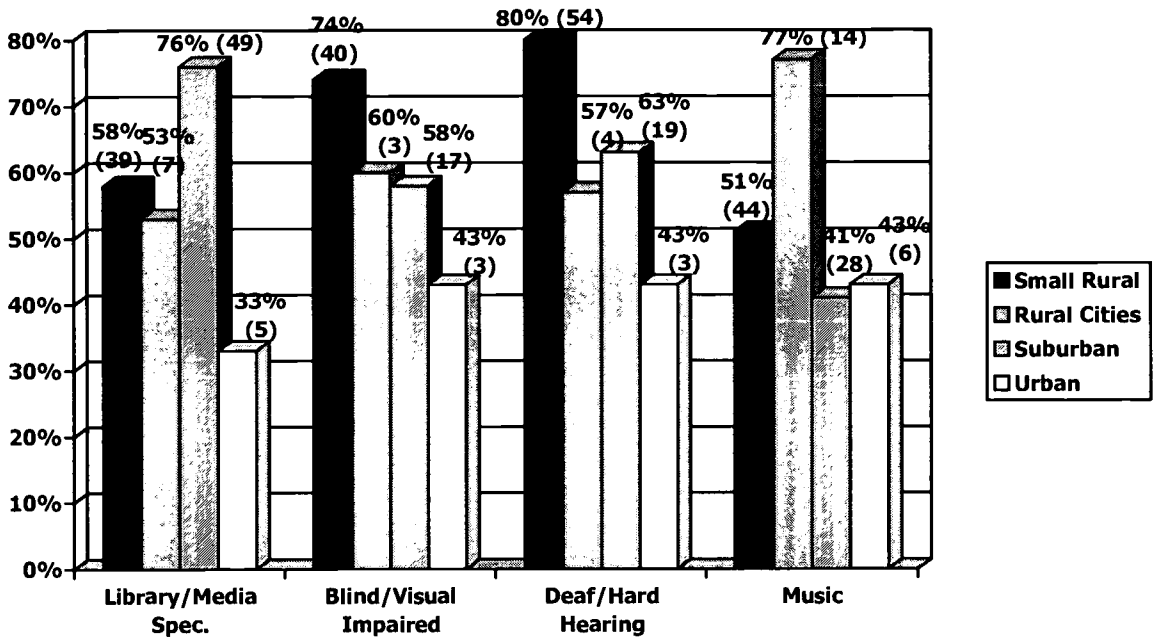
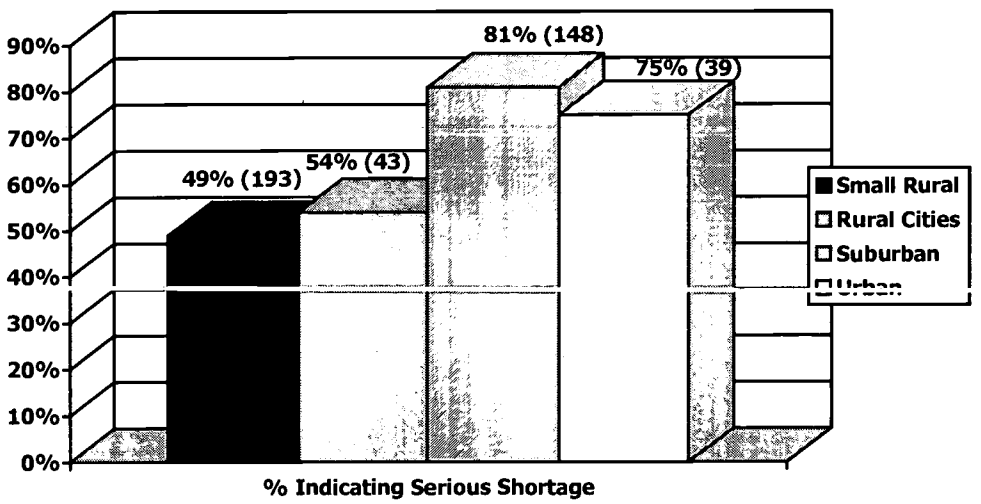


Figure 4: Percentage and Number of Responding Elementary Schools with Vacancies Reporting Serious Shortages (Library, Blind/Visually Impaired, Deaf/Hard of Hearing, Music)



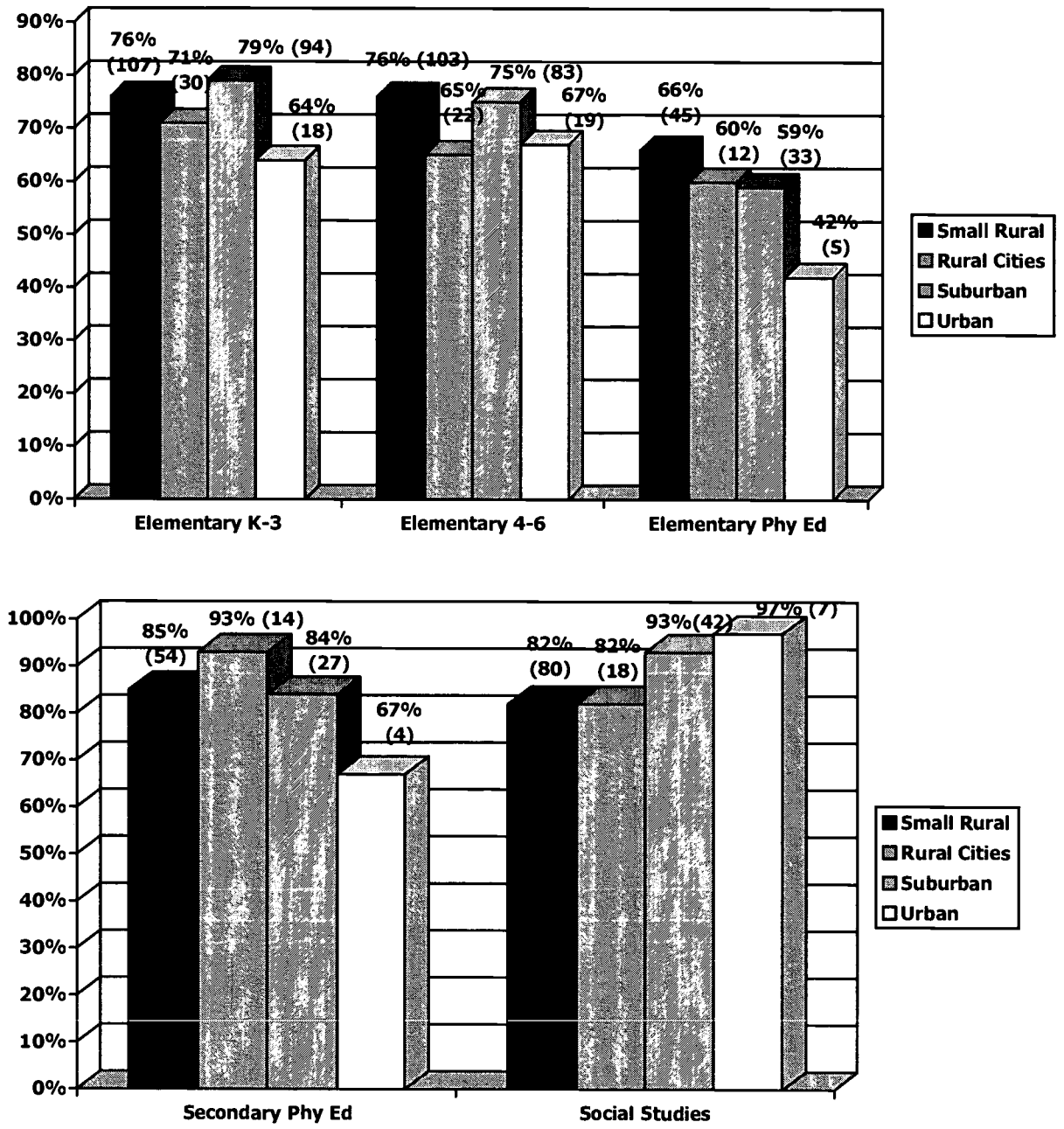
In addition to subject areas, the survey asked about the number of high quality candidates of color applying for 1999-2000 vacancies. While urban and suburban schools were most likely to report a serious shortage of applicants of color (75% and 81% respectively), a majority (54%) of schools in small rural cities and 49% of small rural schools also reported a serious shortage of applicants of color.

Figure 5: Percentage and Number of Responding Schools Reporting a Serious Shortage of Teachers of Color



Shortages were reported in many, but *not* all teaching areas. At the elementary level, high quality applicants for grades K-3, grades 4-6 and Physical Education seemed to be more abundant. Many responding schools with vacancies in these areas reported an adequate supply or a surplus of high quality applicants. At the secondary level, many schools responding reported an adequate number of Physical Education and Social Studies candidates.

Figure 6: Percentage and Number of Responding Schools with Vacancies Reporting Adequate to Large Surplus of High Quality Applicants



Tables fully summarizing the results for all regions and all teaching areas can be found in the Appendix. Many curriculum areas were not highlighted in this section of the report even though 40-50% of the respondents indicated serious shortages. Once again, these tables point to widespread problems with teacher supply in Minnesota. Based on the results of this survey, Minnesota currently faces significant challenges if it is to ensure high quality teachers for every student in the state.

SECTION TWO
CAUSES OF SHORTAGES

This section of the report is divided into three subsections, each dealing with one possible cause for shortages. The first subsection summarizes our research about retention of current teachers, in the second subsection a regional analysis of projected retirements is discussed and a third subsection looks at the role of teacher preparation in ensuring adequate supplies of high quality applicants.

RETENTION OF CURRENT TEACHERS

This subsection is designed to answer a number of questions relating to teachers who leave the profession before retirement. What do we know about retention of teachers in Minnesota? How many teachers are leaving before retirement? Why are they leaving? Do attrition rates vary across regions of the state? Are the most effective or least effective teachers leaving?

Methodology

The primary data used for these analyses was obtained from the Minnesota Department of Children, Families and Learning's (DCFL) Staff Automated Reporting System (STAR) database. STAR is updated annually utilizing data from district-maintained data collection systems. For this report we used the most recent complete database which is from 1997-98 and databases from the previous four years (93-94, 94-95, 95-96, 96-97). Information on employment status and teaching assignments for all active teachers in Minnesota was analyzed for each year using SASS. Identifying information (File Folder Number) for each teacher was scrambled to maintain confidentiality, allowing the release of termination data.

For purposes of this analysis, reasons teachers left the profession that are classified by DCFL as permanent terminations (death, retirement, staff reduction) and reasons teachers left which are classified as temporary leaves from continued employment (maternity/paternity, illness, sabbatical) were combined to develop an overall annual rate of attrition for public school teachers in Minnesota. Teachers who were terminated in one Minnesota district but hired the next year in another Minnesota district are not included in the attrition numbers reported here. Those who left a Minnesota district to teach in another state are, however, included.

In addition to the analysis of STAR data, a question was asked on the principals survey about the effectiveness of teachers leaving the profession. Respondents were asked the following question: "As you think about the teachers who have left for reasons other than maternity/paternity in the past five years, how would you rate their effectiveness in the classroom on average?" Possible answers were "Highly Effective," "Effective," "Average" or "Ineffective."

Limitations

The attrition rates outlined in the following section must be considered carefully. They are limited in the following ways:

- The STAR database is only as accurate as the data provided by school districts. DCFL does not have the resources to confirm the accuracy of this data and school districts have little incentive to spend extra time ensuring that what they provide is completely accurate. However, STAR is currently the only statewide source of employment information for teachers.

- The process of collecting data for the STAR database was changed in the middle of the five years being analyzed in this study. Data for years 94-95, 95-96 and to a lesser extent 96-97 is suspect. The number of terminations for "Unknown" reasons during these years is undoubtedly in error. Many of these terminations did not actually occur and are a reporting

error due to the change in systems. Therefore, the overall attrition rate in these years is likely overstated based on these errors.

- Definitions for various reasons teachers leave may overlap and are somewhat open to interpretation on the part of those at the district level reporting the data. For example, some people may report a teacher on maternity leave under the category "maternity/paternity/ adoption," others may report it under "personal reasons."

- Some districts may report a person as terminated in one year and put them back on the system as an employee the next year. The type of longitudinal analysis of individual teachers necessary to identify these people was not within the scope of this research project. To the extent that districts reported a teacher's status in this way either in error or in fact, the overall rate of attrition is overstated.

Results

Based on this analysis, retention of teachers is a very important issue in Minnesota. Most of the people leaving teaching leave before retirement age. We found that 73% of the teachers in Minnesota leaving in 1997-98, left for reasons other than retirement. In comparing 1993-94 with 1997-98, non-retirement attrition statewide has remained around 6.4%. A 6.4% attrition rate equates to 3,647 teachers statewide in 1993-94 and 4,147 teachers in 1997-98. This level of non-retirement attrition tracks well with national research on the number of teachers leaving the profession for reasons other than retirement, which was estimated at 6% in the midwest for 1994-95.[5] In table 2, the number of teachers leaving and their reasons for leaving are summarized for 1993-94 and 1997-98. (The years in between are included in a table in the Appendix, but are not included here for reasons cited in the Limitations section.)

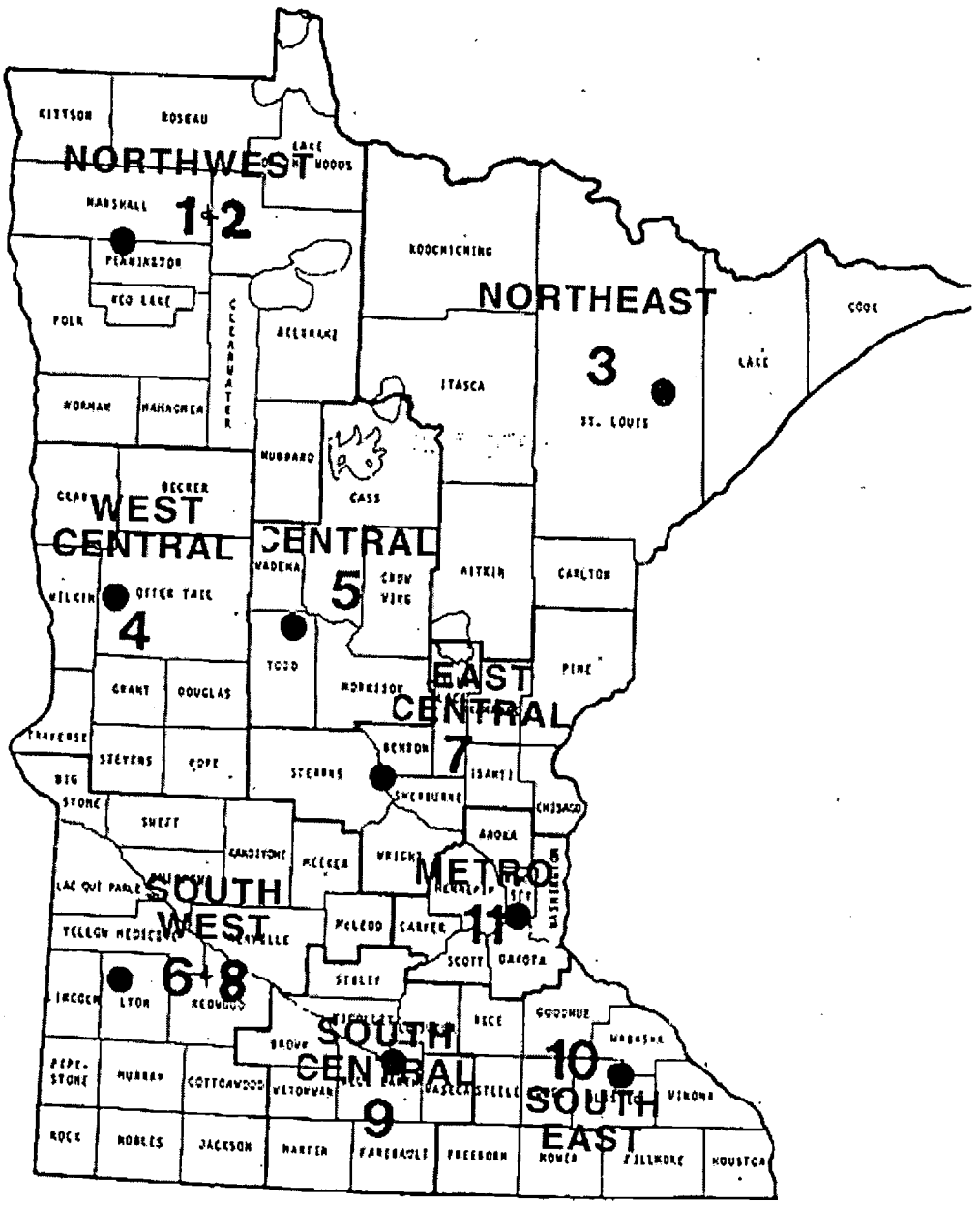
Table 2: Number of Minnesota Public School Teachers Leaving the Profession and the Reasons for Leaving, 1993-94 and 1997-98

Reason for Leaving	93-94 Number	93-94 Percent	97-98 Number	97-98 Percent
Death	47	0.08%	48	0.08%
Educator in Another State or Outside US Extended Leave / Alternative Career	127	0.22%	162	0.25%
Exploration / Sabbatical	446	0.78%	458	0.72%
Illness	213	0.37%	188	0.30%
Left to become a Substitute Teacher	112	0.20%	159	0.25%
Maternity / Paternity / Adoption	246	0.43%	301	0.47%
Not Offered Re-employment for Reasons other than Reduction	212	0.37%	256	0.40%
Personal Reasons	158	0.28%	1429	2.24%
Professional Growth	224	0.39%	150	0.24%
Retirement	846	1.48%	1548	2.43%
Staff Reduction / Unrequested Leave	394	0.69%	348	0.55%
Unknown	443	0.77%	567	0.89%
Other	1025	1.79%	81	0.13%
Total	4493	7.85%	5695	8.94%
Total Number of Teachers Employed	57,222		63,695	

In order to assess whether attrition rates are uniform across the state, the data was divided by Service Cooperative (or ECSU) area. Service Cooperatives are regional organizations providing services to schools and districts throughout the state. There are currently nine Service

Cooperatives serving regions in the state. For ease of discussion, each Service Cooperative region has also been given a directional name such as southeast, northeast, or metro area. The map illustrates regional names and ESCU numbers.

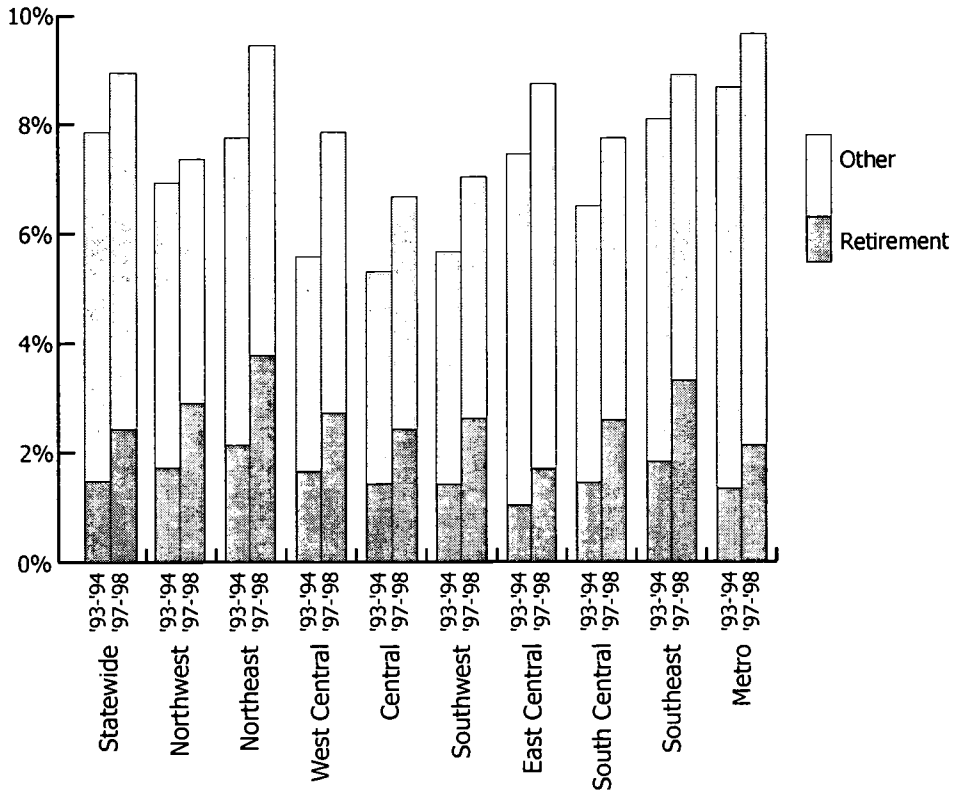
Figure 7 - Map of ECSU Regions and Regional Names Used in Study



Overall attrition rates (including retirement) vary by almost as much as 3% across various regions. In 1997-98, the Metro Region had the highest overall attrition rate at 9.6%, while the Central Region had the lowest overall rate at 6.7%. Overall attrition rates rose across the state between 1993-94 and 1997-98, but much of that increase is attributable to increased rates of

retirement. In Figure 8, retirement and other attrition rates for 1993-94 are compared with rates for 1997-98 statewide and for each region of the state.

Figure 8: Percentage of Minnesota Public School Teachers leaving the Profession (1993-94 and 1997-98)



The large number of people leaving the teaching profession each year for reasons other than retirement is particularly alarming when you consider that a majority of principals responding to the survey across all regions rated those teachers leaving as "highly effective" or "effective" in the classroom. Under 10% of the principals responding from all regions, considered those leaving to be teachers who are "ineffective" in the classroom. In Table 4, effectiveness ratings for those teachers leaving are summarized by region.

Table 3 - Effectiveness of Teachers Leaving by Region

Region	% Saying on Average Highly Effective or Effective Teachers are Leaving (n)	% Saying on Average Ineffective Teachers are Leaving (n)
Small Rural	56% (220)	5% (21)
Rural Cities	60% (48)	10% (8)
Suburban	61% (111)	6% (11)
Urban	52% (27)	6% (3)
Statewide	57% (406)	6% (43)

The reasons for leaving vary somewhat across regions and years. It is difficult, however, to draw many solid conclusions from this analysis of the state's STAR database because of limitations already mentioned. Errors created when the collection system changed and definitions applied by those reporting data make it difficult to rely heavily on the fine distinctions between the reasons people are leaving. However, these data may point to areas for further investigation and confirmation. For example, a large number of teachers in 1997-98 left teaching in the Metro Region for "personal reasons." This is an area where further data collection may shed some light on what personal reasons, why there has been such a large increase, etc. Tables in the Appendix provide full detail on the number of people leaving by region for all five years.

RETIREMENTS

How will projected retirements affect different parts of the state? Will some geographic regions and teaching areas be harder hit than others? What impact will this have on shortage areas? What our research has to say about these important questions will be explored in the following subsection.

Methodology

As mentioned in the introduction, the Center for School Change completed a report in March of 1999 focusing on teacher supply and demand in Minnesota. As part of that study, statewide retirements by curriculum area were projected for the period between 1998 and 2008. For this study, that data was divided by region in order to compare retirement rates in various parts of the state.

The primary data used for these analyses was once again obtained from the Minnesota Department of Children, Families and Learning's (DCFL) Staff Automated Reporting System (STAR) database. For this report, we used the most recent database (1997-98) for all teachers currently teaching (51,818 full time equivalents-FTEs). The primary data fields used in these analyses were teacher age, years of service, teaching assignment, assignment FTE and district of employment.

In order to project when these teachers might retire, we worked with the actuarial consultant for the Minnesota Teacher Retirement Association (TRA), Buck Consulting. This organization provided the most recent criteria they are using within their system to project retirements. While these criteria are most likely more accurate at predicting reality, they were just finalized in late 1998 and have not yet been approved by the state of Minnesota.

The primary eligibility criteria used by the state's teacher retirement systems is the "Rule of 90." Under this rule, a teacher is eligible to receive full retirement benefits when the combination of his or her age and years of service equals "90." Buck Consulting used historical data to determine how many teachers are likely to retire in the first year that they reach the Rule of 90 and in subsequent years. For those teachers that are likely to never reach the Rule of 90, a probability based on age has been calculated. For example, it is estimated that 5% of 55 year olds who will never reach the Rule of 90 decide to retire anyway, 60% of 65 year olds, etc. STAR data on years of service and age were used to divide teachers into two categories -- those that will reach the Rule of 90 in the next ten years and those that won't. Years of service included time as a teacher, an administrator or other educational employee. The appropriate probabilities were then applied to each group to determine the number of projected FTE's retiring by assignment area for each year 1998-2008.

Limitations

These projections must be considered carefully. They are limited in the following ways.

Accuracy of Data

As mentioned in the section on retention, the STAR database is only as accurate as the data provided by school districts. However, STAR is currently the only statewide source of assignment data. Minnesota's teacher retirement associations do not collect data on teaching assignment.

Years of Service Overstated

The years of service in the STAR database reflect some time which may not be counted toward the Rule of 90 by the retirement associations. For example, time spent working in certain educational employment classifications or time spent working as a teacher in another state may not be eligible. These years are, however, counted in the STAR database. In order to gauge the magnitude of this problem, we compared our overall retirement projections to statewide TRA overall projections. The number of people we projected to be retiring overall was within 5% of the number TRA projected.

Teachers Who Enter Late in Life

Some number of teachers enter or re-enter the teaching profession late in life. They may start teaching and retire within a 5-year period. These teachers are not reflected in our analyses. We used only teachers that were teaching in 1997-98.

Retirements Expressed as Full Time Equivalents (FTEs)

Our data is reported by full time equivalents (FTEs). The actual number of people retiring in any given area of teaching would be greater. In many areas (particularly rural areas), a teacher may teach three or more subjects -- Social Studies, English (Communications), and Drama (Arts). In Table 2.2 that teacher would not show up as a whole person in any one of those teaching categories, rather as .5 in Social Studies, .25 in Communication and .25 in Arts. An alternative way to look at it would be that the school is losing one social studies teacher, one communication teacher and one Arts teacher. When a teacher teaching three subjects retires, it may be more of a challenge to replace that person than to replace a 100% time Communication teacher.

TRA Criteria Used Statewide

The statewide TRA does not represent teachers in Minneapolis, St. Paul or Duluth. Teachers in each of those cities are represented by separate retirement associations. We contacted each of those retirement associations to see if we could compare the criteria used to project retirements by the statewide TRA with the criteria they use. Minneapolis did not provide us projection criteria. Numbers provided by the other two systems were similar, but not exactly the same, for Rule of 90 retirees (i.e., 40% retiring in the first year for St. Paul and Duluth, compared to 45% for statewide TRA).

St. Paul and Duluth TRA's also use an age-related probability for predicting retirements among members who are not eligible for the Rule of 90. Probabilities by age vary slightly for each retirement association. For example, St. Paul and Duluth predict 40% of 64 year olds not eligible for the Rule of 90 will retire, whereas statewide TRA predicts 45% of these members will retire. Based on these conversations, we applied the Buck Consulting criteria statewide.

Early Retirement Incentives

Some districts have instituted early retirement incentive systems. Early retirements prompted by these programs are not accounted for in our analysis. To the extent that these programs result in teachers eligible for the Rule of 90 retiring before they reach eligibility, our numbers understate the number of retirees in a given year. The retirement associations, also, do not account for these incentive programs when making their projections.

Results

An analysis of projected retirements by region and teaching area reconfirms that retirements in key teaching areas will only exacerbate shortages in many high needs areas. In Table 4 below, shortage teaching areas where 50% or more of the teachers in a region are projected to retire by 2008 are listed. For example, it is projected that in the Southwest Region 59% of the 62.7 FTEs currently teaching Industrial Arts will retire by 2008. The curriculum areas listed in this table are also areas where a large percentage of survey respondents indicated serious shortages of high quality applicants. Those areas include Physical Science (or Chemistry/ Physics), Industrial Arts and Mathematics.

Table 4: Regions and Shortage Teaching Areas where a Majority of FTEs are Projected to Retire by 2008 (Statewide projections also included for comparison)

Teaching Area	Region	% Projected to Retire by 2008	FTEs Projected To Retire by 2008
Industrial Arts	Southwest	59.2%	37
	East Central	51.9%	52
	South Central	54.4%	29
	Southeast	50.6%	41
	Statewide	47.5%	392
Mathematics	Northeast	50.0%	98
	West Central	50.8%	69
	Southwest	58.1%	119
	South Central	58.5%	88
	South East	52.7%	128
	Statewide	45.8%	1230
Chemistry	West Central	57.9%	9
	Central	99.7%	10
	Southwest	63.0%	14
	East Central	51.6%	14
	South Central	62.2%	12
	Metro	65.0%	82
	Statewide	59.9%	167
Physics	Northwest	56.8%	4
	West Central	76.1%	5
	Central	94.8%	4
	Southwest	71.4%	9
	Southeast	61.1%	7
	Metro	52.3%	36
	Statewide	53.4%	77

Retirement rates by region and curriculum area vary. For example, 56% of the current elementary teachers in the Northeast Region are projected to retire by 2008 compared to 30% for the East Central Region. Overall retirement rates vary from a high of 46% in the Northeast Region to a low of 29% in the East Central Region. Tables that include current FTEs and projected retirements by all curriculum areas for all regions can be found in the Appendix. Further investigation and special strategies may be necessary in regions where a large percentage of teachers are retiring, especially in shortage areas such as those outlined in Table 4.

INADEQUATE PREPARATION AND SUPPORT

Various reports issued during the past decade have identified a number of reasons that bright young people choose not to enter the teaching profession and current teachers choose to leave the profession, among those reasons are inadequate salaries, lack of professional prestige, and working conditions. One additional reason that comes up regularly is the inadequacy of all aspects of preparation - including pre-service, field experience (including student teaching), early support such as induction and mentoring and ongoing professional development.

In his recent report "A Matter of Quality: A Strategy for Assuring the High Caliber of America's Teachers" Lowell Milken discusses the results of a survey conducted by the National Center for Education Information. "When asked to rate the features most valuable in developing competency to teach, educators ranked teacher education programs near the bottom - far less valuable than teaching experience, advice from other teachers or learning on their own." [6] Milken goes on to say:

> Clearly, teacher education programs do not equip teachers to immediately take on, as they are expected to, the responsibilities of a 20-year veteran. Not only does theory not transfer well from methods classes to real-life teaching, but there is also too little effective clinical training.[7]

A study conducted by the Center for School Change in December of 1998 reached similar conclusions. That study, which summarized the results of a survey completed by over 1,100 Minnesota public school administrators, found that many new teachers knew their subject area well but did not know how to teach it. In addition, administrators felt many new teachers were "not at all prepared" or "not very well prepared" to work with parents, community agencies, special needs students or ESL students.[8] In a January 1999 survey conducted by the National Center for Education Statistics, many educators echoed Minnesota administrator views. According to this study, less than half of American teachers feel "very well prepared" to meet the challenges of teaching.[9]

Noted education reporter John Merrow summed up the situation this way in a recent Ed Week article: "Simply put, we train teachers poorly and then treat them badly -- and so they leave in droves." [10] Merrow, in his article titled "The Teacher Shortage: Wrong Diagnosis, Phoney Cures," contends that the focus should not be placed on recruiting people to a profession that can't keep them there. He believes that "retention" of teachers is where the focus should lie. He states:

> Where shortages exist, these are often what should be labeled 'self-inflicted wounds.' They fall into three categories: Schools underpay and mistreat teachers and eventually drive them from the profession; inept school districts cannot find qualified teachers living under their noses; and substandard training ill prepares young men and women for the realities of classroom life.[11]

In defense of colleges of education, Merrow maintains that "every school of education actually knows how to train teachers well, but that requires more time and money." Linda Darling-Hammond contends that about half of an education students' tuition subsidizes other parts of the university.[12] This results in "large classes on campus, rather than intensive work in real schools with real children." University incentive systems are also at fault, putting those who actually train teachers at the bottom rung underneath those who do research and publish. Merrow hopes that "alternative" routes to teacher preparation will force the more traditional approaches to "shape up."[13]

Arguably one of the most important aspects of preparation is the experience prospective teachers get in real classrooms. Unfortunately, the student teaching experience is often too short and does

not necessarily involve placing prospective educators with the most effective teachers. John Goodlad, one of the nation's most honored educators and current dean of the University of Washington College of Education, has conducted research which indicates that "placement of student teachers is more a matter of what is convenient for the school than the quality of the experience for the teacher." [14]

In the ground breaking work "What Matters Most: Teaching for America's Future," the National Commission on Teaching and America's Future found, after two years of study, a number of barriers to ensuring high quality teachers for all students. Among those barriers cited in the report are "major flaws in teacher preparation" and "inadequate induction for new teachers." The Commission issued five recommendations, which are currently providing a framework for how many states are responding to the challenge of ensuring high quality teachers in all classrooms. The second recommendation is:

Reinvent teacher preparation and professional development

- Organize teacher education and professional development programs around standards for students and teachers.
- Develop extended, graduate level education programs that provide yearlong internship in a professional development school.
- Create and fund mentoring programs for beginning teachers, along with evaluation of teaching skills.
- Create stable, high-quality sources of professional development.[15]

While it is certainly true that teacher preparation, induction and staff development programs are not exclusively responsible for our inability to attract and retain high quality teachers, they do play a central role. That role cannot be ignored if we are to go beyond matching numbers in response to teacher shortages to a higher calling of ensuring that those in the classroom are up to the important task of educating all students.

SECTION THREE
STATE AND LOCAL SOLUTIONS

The focus of this section is solutions. What strategies are schools and districts currently using to attract new, high-quality applicants? How successful have these strategies been? Which state level policies should be pursued to address shortages of high quality applicants for teacher vacancies?

Methodology

The information on possible solutions presented in this section is based on the survey of principals discussed in Section Two of this report. In one question, principals were asked to indicate if they had used or planned to use a number of strategies. If a school had used a strategy, the principal was asked to rate the effectiveness on a three-point scale of "Very Successful," "Moderately Successful," or "Not Very Successful." Respondents were given an opportunity to write in solutions not on the list. A second question, relating to possible state-level solutions to the teacher supply issue, was also asked on the survey. A list of eight solutions appropriate for action at the state level was provided and principals were asked to indicate on a 5 point scale of "strongly agree" to "strongly disagree" how they felt about the solution. Options of "no opinion" and "other (write in)" were also provided. The lists of local strategies and state level solutions were developed based on a literature review of practices being used or proposed in other states and in local schools and districts throughout the country.

Limitations

The results of the survey are limited by the sample, response rates and the survey instrument. First, the sample was designed to include all Minnesota public school principals rather than a random sample. Second, the sample is slightly un-representative based on region and grade level as outlined in the previous section. Third, because there are a relatively small number of schools in rural cities and urban areas (where schools, particularly secondary schools, can be quite large), the number of surveys from these areas is also small. Finally, the results are limited by the questions included and the way the questions were asked in the survey. For example, which state level solutions principals give the highest priority cannot be ascertained from the way the questions were asked.

Results

A number of schools across the state have implemented strategies to address the shortages they are facing. In Table 5 on the next page, the percentage of schools that have tried various strategies is summarized. Based on this data, a significantly larger percentage of urban schools have used the listed strategies, particularly alternative licensure and training of paraprofessionals. Over half of the urban schools responding have used these two approaches. Many urban schools have been dealing with shortage situations for a number of years, particularly with shortages of teachers of color. The higher use of alternative licensure and paraprofessionals by urban schools may be a result of this situation.

Table 5: Percentage of Responding Schools Using Listed Strategies

Strategy	Small Rural	Rural Cities	Suburban	Urban
Alternative licensure	32%	24%	27%	60%
Training paraprofessionals	21%	8%	24%	51%
Placement above entry on salary scale	28%	20%	34%	30%
Retraining current staff to fill high needs areas	14%	6%	8%	19%
Salary schedule credit for non-teaching experience	14%	11%	13%	23%
Signing bonuses	4%	0%	3%	6%
Delaying retirements	3%	3%	2%	4%

The effectiveness of various strategies appears to be mixed, but in general most of the strategies employed appear to be at least modestly successful. "Modestly Successful" was the single most prevalent response. Urban schools found the three most common strategies more successful than other regions. For example, slightly more than half of the 31 urban schools responding to this question felt that alternative licensure has been a "very effective" strategy. Whereas, only 28% of the 125 small rural schools who had used this strategy thought it was "very effective." Table 6 summarizes the effectiveness of the top three strategies as rated by each region.

Table 6: Successfulness of Top Strategies being Used by Responding Schools

Strategy	Small Rural			Rural Cities			Suburban			Urban		
	Very	Mod-erate	Not Very	Very	Mod-erate	Not Very	Very	Mod-erate	Not Very	Very	Mod-erate	Not Very
Training para-professionals	20% (16)	68% (54)	12% (9)	66% (4)	34% (2)	0% (0)	28% (12)	57% (24)	15% (6)	50% (14)	46% (13)	4% (1)
Above entry on salary scale	34% (43)	59% (73)	7% (7)	17% (3)	83% (14)	0% (0)	39% (22)	55% (31)	6% (3)	52% (9)	48% (8)	0% (0)
Alternative licensure	28% (36)	59% (73)	13% (16)	25% (5)	60% (12)	15% (3)	24% (12)	63% (31)	13% (6)	52% (16)	48% (15)	0% (0)

There appears to be widespread support among principals for a number of possible state level solutions. Scholarships for students willing to teach in high needs geographic and curriculum areas topped the approval list for all four regions of the state. Ninety-three percent of schools responding to the survey from rural cities, suburban and urban areas "agreed" or "strongly agreed" with this solution and 88% of small rural schools reported similar support. Support varied slightly among regions for some solutions. For example, 69% of small rural schools "agreed" or "strongly agreed" with alternative routes to teacher preparation, while 86% of urban schools felt similarly. Support for various solutions is outlined in Table 7.

Table 7: Percentage and Number of Responding Schools Agreeing or Strongly Agreeing with Proposed Solutions

State Level Solutions	Small Rural	Rural Cities	Suburban	Urban	State-wide
Scholarships for students willing to teach in high needs geographic and subject areas	88% (351)	93% (74)	93% (168)	93% (49)	90% (642)
Forgiveness of loans for students willing to teach in high needs geographic and subject areas	83% (328)	90% (72)	79% (144)	84% (45)	83% (589)
Funding for mentorship programs	81% (321)	90% (72)	92% (167)	93% (49)	86% (609)
Early recruitment programs	75% (298)	76% (61)	85% (154)	90% (47)	79% (560)
Alternative routes of teacher preparation	69% (273)	73% (58)	82% (150)	86% (46)	74% (527)
Paraprofessional training	65% (258)	66% (52)	69% (126)	85% (44)	68% (480)
Changes in retirement policies	60% (237)	62% (49)	67% (123)	79% (41)	63% (450)

SECTION FOUR
KEY FINDINGS

1. **In the fall of 1999, principals across the state of Minnesota were faced with a shortage of teacher applicants they felt comfortable hiring.** In fact, 92% of the principals responding reported a serious shortage of high quality applicants in at least one curriculum area. Rural regions of the state were not significantly more likely, *in general*, to face problems. In some curriculum areas, shortages varied by region. These are highlighted in Figures 3 and 4 on pages 6 and 7.

2. **Shortages of teachers of color are being felt in rural and suburban areas of the state as well as the urban core.** Close to a majority (49%) of small rural schools and more than half of the schools in small rural cities responding to the survey indicated a serious shortage of teachers of color. Slightly more suburban schools actually indicated a serious shortage of teachers of color than urban schools – 81% compared with 75%.

3. **The state faces a unique and critical problem with special education teachers.** Previous research shows that Minnesota's colleges and universities are training more than enough people to meet demand. However, teachers trained in this field are not entering the profession or are taking teaching positions in other areas, leaving a major shortage of strong candidates for special education positions. More than 70% of the schools with vacancies in the area of Emotional/Behavioral Disorders in all regions of the state reported a serious shortage. The National Center for Education Statistics reports that nationally, attrition among special education teachers is higher than for teachers in any other field.[16]

4. **The state is losing thousands of teachers each year for reasons other than retirement and many of these teachers are considered effective or very effective in the classroom.** In 1997-98, 73% of the teachers leaving or 4,147 left for reasons other than retirement. This is especially alarming when combined with our survey results, which show 57% of the principals responding felt that the teachers leaving were on average "highly effective" or "effective." Only 7% felt the teachers leaving were on average "ineffective."

5. **Projected retirements in the areas of Math, Physical Science and Industrial Arts will exacerbate an already bad situation.** In several regions of the state, a majority of Physical Science, Mathematics and Industrial Arts teachers are projected to retire by 2008. In some regions, mostly rural, these numbers climb as high as 70% to 90%. Many principals reported serious shortages of high quality applicants in these teaching areas this fall.

6. **A shortage of *high quality* applicants does not mean a shortage of applicants.** Teacher supply is more than just matching numbers. It is important to know something about the quality of those people applying for teaching positions. Researchers in Tennessee, Dallas and Boston concluded that good teachers significantly boost student achievement even for the weakest pupils.[17] Having two highly qualified candidates for a position is in most cases more desirable than a hundred inadequate ones. Questions in this study were designed to find out more about the supply of those people schools felt comfortable hiring, not necessarily the supply in general.

7. **Some local districts and schools have begun to implement their own strategies for attracting teachers. Urban areas, where shortages have been an issue for some time, appear to have been more aggressive in pursuing strategies.** Schools have begun to respond to the situation in a number of ways. Moving new teachers in high needs areas up the salary scale, training paraprofessionals to take on teaching jobs and alternative licensure are the strategies employed most often by survey respondents. Alternative licensure and paraprofessional training have been used by more than half of the urban schools responding.

8. **There is widespread support for state level solutions to this problem.** Principals agreed or strongly agreed with a number of proposed state level solutions to the problem. The top two solutions across regions were scholarships and loan forgiveness programs for students willing to teach in high needs regions and curriculum areas.

SECTION FIVE
CONCLUSIONS

More than 700 Minnesota public school principals made it clear that now, today, there is a serious shortage of strong candidates for many teaching positions throughout the state. Why was it big news in Minnesota nine months ago, when a previous Center for School Change report predicted major shortages over the next decade in key areas? Why was it front page news when a report, released by the University of Minnesota's College of Education, noted that Minnesota's nationally recognized public education system "is in serious jeopardy, however, if the availability of well-qualified teachers to fill vacancies continues to be as problematic in the next several years as it has proven to be recently"? [18]

Answers to these questions are critical if we are to make progress. It's important to listen to people inside and outside the profession. For example, Education Minnesota co-president Judy Schaubach recently outlined her suggestions for attracting and retaining teachers.[19] These include:

- Competitive salaries.
- Loan forgiveness for college graduates who enter teaching and stay in the profession.
- Strong mentorship and coaching programs.
- High standards and licensure.
- Quality teacher preparation.

These are reasonable suggestions. Why haven't they been implemented? Is the answer only a lack of money? Isn't it also about priorities for districts and teacher organizations? If, for example, Education Minnesota believes that there should be strong mentorship and coaching programs, why doesn't it make this its first or second priority in negotiations? Why haven't the billions of dollars already devoted to public education been enough to ensure, for example, that there is a high quality mentoring program in every district? Why doesn't every district have a strong mentorship and coaching program?

Here are other important questions to consider: Why does the state tolerate a situation where three of the last twenty-five state Teachers of the Year have been laid off due to low seniority? Why doesn't the state's major teacher union encourage teachers to set up public schools which they could literally own, in which they can, and do, set their own pay? Why do some districts limit the number of years of experience that teachers transferring into the district can get credit for on their salary schedule? Why don't most districts look at progress students make with a teacher as one part of the overall assessment of that teacher's work? Why don't we have opportunities for people with skills the system needs to earn substantially more money? Why do many teachers tell us that after receiving tenure, they have no formal evaluation program, or go years before getting formal feedback about their strengths and potential areas of improvement?

What about the state's teacher preparation programs? Why don't we have teacher training programs which administrators and community activists regard as excellent at preparing teachers not only in their subject matter, but in working with students?

These are questions that urgently need discussing if we are to have strong teachers in all our state's classrooms.

The answer seems pretty clear. Ensuring that we have high quality teachers in all our classrooms is not the number one priority for Minnesota's public education system.

We have been content to be "pretty good." We have assumed that teacher shortages may be a problem in large cities of the East or West, or for poor southern states, but not for Minnesota.

We've also assumed that we don't really need strong teachers in every classroom. As the National Commission on Teaching and America's Future reminds us, "...if this nation is to prepare all of its children for the challenges of the 21st century, teaching must be able to recruit an retain able, well-prepared teachers for all classrooms."[20]

Minnesota schools need incentives, not just encouragement, to do the right things. It's perhaps worth recalling what happened when Minnesota enacted the Post-Secondary Options Law in 1985. This created incentives for districts to improve their own programs. Most public education groups, including the teachers unions and school board associations, battled this law.

But a decade later, the majority of Minnesota high school principals noted that the Post Secondary Options Act produced increased collaboration and communication between high schools and colleges.[21] Moreover, hundreds of new courses were created in high schools, in part as a response to the fact that students could take college courses with state funding following them from high school to college.

The state needs these kinds of incentives to attract and retain excellent teachers. Otherwise, it will be very easy for school districts, and teacher preparation programs, to keep on doing things much as we have in the past. It's increasingly clear that what may have worked before, is not working now.

No one has to tell airline companies to hire good pilots, continue to train and assess them, and pay them well. If the companies don't hire good people, the company has grave problems. Right now, however, public schools continue to receive the same funding whether student achievement goes up, down, or stays the same.

In the right kind of public education system ...

- Throughout the state, outstanding teachers would be deeply involved in the preparation of new teachers. In every district, the finest teachers should be mentoring younger teachers, and helping experienced but struggling teachers.
- Every year, schools would provide feedback to all employees about their strengths and weaknesses.
- Outstanding teachers could earn $70-90,000 per year, the same, or even more than what building administrators earn.
- There would be rewards for schools which show clear, measurable progress with students. There should be consequences for schools which do not make progress.

The Legislature cannot do all of these things. **But the Legislature can continue its progress toward creating a system which makes improving student achievement its highest priority.**

Research by the Education Trust, among other groups, indicates that **a system focused on improving student achievement ...**

- Has clear academic goals.
- Creates a system of multiple measures to assess whether students are making progress in key academic areas.
- Provides most of the resources allocated for public education at the local school site.
- Provides opportunities for people at the school site to make critical decisions about budget and personnel.
- Includes a clear system of consequences for adults, as well as students. The system has rewards for progress, and consequences for a lack of progress over a period of 3-5 years. [22]

In a public education system focused on student achievement ...

- *Most teachers would feel qualified to work with students.* However, a recent federal report, released by Secretary of Education Richard Riley, found that "only one in five full time public school teachers said they felt well qualified to teach in a modern classroom." The Secretary of Education described this finding as "a cry for help."[23]

- *School districts would prize excellent teachers.* However, a 1992 Center for School Change Report found that three of the last 20 Minnesota State Teachers of the Year had been laid off due to low seniority.[24]

- *School districts would welcome excellent teachers transferring in from other states and districts.* However, a variety of teachers have described situations to Center for School Change staff where a district would give them only very limited credit, if any, for experience in other districts. In one central Minnesota district, a teacher offered to create a school-within a school for a district, and the school board said it wanted the program. However, the superintendent told the teacher she would not get credit for any of her previous decade of experience. Questioned about this, the superintendent acknowledged that there was one time when an exception was made: high school principals are allowed to recruit football coaches, and to permit the football coach from another district to claim credit on the salary schedule for all his years of teaching experience.

- *Salary settlements would not exceed the revenue increases given to school districts*, thus, in many cases forcing districts to increase class size and cut programs. This is a cycle in which teachers demand more money, because teachers believe they deserve it. School boards give it, because they value teachers, and don't want to have a strike. And so despite increased funding, many communities encounter larger class sizes and program cuts.

- *Districts would be freer to follow the recommendations of many principals regarding the laws of supply and demand when trying to attract new teachers.* As one principal wrote, "To me, it seems like the supply/demand issue is partially an economic one. I've never understood the preposterous notion that all teachers, no matter the subject, grade level, or demands of the position are paid the same given comparable experience and degree status."

- *The vast majority of public school administrators would report that teacher preparation institutions have met with them to help assess and improve their programs.* A report earlier this year reported that while more than 75% of public school principals and superintendents said they would like to meet with teacher education professors to discuss how to improve teacher preparation, more than half said they had not been invited to do so in the last three years. [25]

- *Teacher preparation programs would be clamoring to hire the National Teacher of the Year, and other award-winning highly regarded teachers.* Currently many Minnesota teacher preparation programs say they can't hire Mary Beth Blegen, an extremely gifted educator who was named Minnesota and National Teacher of the Year two years ago. Why can't they hire her? Because she does not have a Master's or doctorate degree.

- *Student teachers would be placed with the finest teachers.* But a national study of teaching by John Goodlad, the highly respected Dean of the University of Washington College of Education, found that "The need for sheer numbers of cooperating teachers overshadows the importance of getting good ones. Many of the arrangements for student teaching are disgraceful."[26] His study also found that "the choices (of student teacher placements) were

often based on convenience rather than on what would provide the best experience for student teachers."[27] Furthermore,

> For the most part, colleges and universities are hard pressed to find enough cooperating teachers - let alone unusually able ones - to take care of the numbers of student teachers. To expect these cooperating teachers, for a token payment that is virtually an insult, to immerse themselves in the practices being taught in the university and monitor their use by student teachers is to expect the ridiculous.[28]

The sad fact is that some Minnesota college officials, and some K-12 principals, have said virtually the same thing to us over the last couple of years.

- *If teacher preparation functioned more effectively, teachers would see education courses and faculty as extremely valuable.* But when asked what they considered the most valuable factors in developing competency to teach, 92% of teachers named their own teaching experience, 72% cited other teachers, while only 37% listed education methods courses and 17% listed college of education faculty.[29]

- *Teacher preparation programs would do a far better job of preparing prospective teachers to work effectively with parents to create partnerships between families and schools.* In a survey published earlier this year, only 25% of Minnesota principals, and only 12% of state superintendents reported that recently prepared teachers were "very well prepared", or "well prepared", to involve parents and families.[30]

- *Teacher preparation programs would not be one of the major reasons large numbers of high school students are not interested in a career in teaching.* As a recent report of the Milken Foundation noted, "word is also out about the poor reputation of schools of education." More than half of high school students (55%) told the Milken Foundation that one of the reasons why teaching did not interest them was the "poor reputation of colleges of education." [31]

Minnesota principals surveyed for this report, the National Commission on Teaching and American's Future, and the recent Milken report urge very different collective bargaining agreements. In such arrangements, teachers with strong skills might earn much more money while remaining, at least part of the day and year, in the classroom.

It's not enough to urge school districts, colleges and universities to do the right things. What appears to be needed are greater incentives for teacher groups, school boards, and universities to break out of a system which often seems so frustrating.

Organizations respond to incentives, to what is valued and rewarded. We need a public education system which rewards progress.

Concluding thoughts

Is money part of all this? It certainly could be, but more money alone won't improve student achievement, much less attract and retain more teachers. There is ample evidence of this point. One excellent example is the research by Harvard professor Richard Murnane and MIT professor Frank Levy.[32]

They pointed out that as a result of a desegregation lawsuit in the late 1980's, 16 elementary schools in Austin, Texas received an additional $300,000 a year for five years - thus, $1.5 million per school, over a five year period. Yet, "In 14 out of 16 schools more money made no difference." Attendance and achievement stayed about the same.

In two of the sixteen schools, attendance and achievement improved significantly - student attendance rates at the two schools were among the city's highest and achievement had risen to the city's average. What happened?

The improvement started with faculty sitting down with parents and saying, "we must do better. We will make some changes. But we also need you to make some changes." Murnane and Levy explain that significant improvements took place "because both schools specifically adopted the goal of raising student achievement and found ways to engage teachers, parents and students in pursuing these goals." [33]

It isn't enough to urge schools to do what those two schools did. Minnesota needs a system which will expect progress in every public school. We need a public education system that rewards schools which are making progress, and penalizes schools which are not.

Such a system will attract and retain excellent teachers. Fine teachers will be prized and valued because they will be needed.

SECTION SIX
RECOMMENDATIONS

We have tried to convey a sense of urgency in this report. Thoughtful, constructive action is needed now. It is not enough to find people to fill teaching positions. It is critical to have enthusiastic, talented, committed people working with our students. We need to make fundamental improvements in the system, so that we attract and retain capable, enthusiastic, talented educators.

Award winning educational journalist John Merrow recently compared our public education system to a

> swimming pool with a serious leak. You wouldn't expect that pouring more and more water into the pool would in time fix the leak but that's precisely the approach we are taking toward the so-called teacher shortage...Education's real problems lie within the system that is already in place, and no influx of idealistic men or women will change that.
>
> Our recent investigation into the teacher shortage for a PBS documentary found a system-wide pattern of mediocrity and incompetence that begins in schools of education and infect the entire system. Simply put, we train teachers poorly and then treat them badly - and so they leave in droves.[34]

It is vital to do the most effective things. Time, energy and money are limited. It is possible to made decisions that will be very expensive, but yield modest results. Some things cost money, while other important steps require changes in the way elementary and secondary schools, school systems, as well as higher education institutions operate. We offer the following conclusions and recommendations in the spirit of humility, based on what we believe is the best available evidence.

First, and foremost, the Minnesota legislature ought to consider how it can encourage the K-12 and higher education systems to be more focused on improving student achievement. In a system in which higher achievement is the highest priority, participants in the system will do dozens of things which urgently need doing.

Our single strongest recommendation is that the Legislature take further steps to create a public education system which makes it imperative for school systems to attract and retain excellent teachers. At best, our political and economic systems reward creativity and competence, while penalizing mediocrity and failure. Our public education should do the same. In order to do this:

1. **The Legislature should insist that each public school show clear, demonstrable improvement of student achievement over a period of three to five years.** In such a system, strong teachers will be highly valued and eagerly sought.
   - Eighty-ninety percent of the funding for public education should go directly to schools.
   - Schools would have the power to decide who to hire, within broad certification limits, and how much to pay them. Schools should be able to hire a certain percentage of people who have special skills and experience, but who may not have gone through traditional certification programs. Schools could use the conventional salary structure, or could develop their own, responding, for example, to recommendations from the Milken Foundation.
   - The Legislature should continue and strengthen its policies which help groups of parents and teachers create new public school options to help stimulate improvements.

- The Legislature should spend part of the 2000 session listening to Minnesota educators who have developed the "Minnesota plan" - an approach which they think will allow Minnesota districts to be more effective and efficient.

2. **The Legislature and school boards should listen to the kind of suggestions principals made in their responses to the CSC survey outlined in this report.** They should help encourage more talented people to enter the profession by creating a program of college loan forgiveness and scholarships for new teachers in areas of key shortages.

3. **The Legislature also could provide a series of incentives to schools, as suggested by principals.** These could be structured as matching grant programs for schools which wish, for example, to
   - Create mentor programs.
   - Create new approaches to teacher training which increase cooperation between parent, community, business groups, the school itself and higher education institutions.
   - Develop programs for current educators who wish to be retrained to teach in a different field where significant shortages are apparent.

4. **The Legislature should assess the impact of currently funded programs to increase the supply of strong teachers of color, and continue to provide funds over the next several years to attract people of color into teaching.**

5. **The Legislature also ought to fund intensive data gathering over the next decade by the Department of Children, Families and Learning about teacher supply and demand.** This data collection should be ongoing and comparable so that trends can be identified and addressed. If the Department decides to sub-contract this out, the contracts should go to researchers not employed by colleges or universities, which may have vested interests in the outcomes and conclusions.

6. **The Commissioner of Children, Families and Learning should create a statewide task force, which meets regularly to review the data the Department generates.** Members of this task force should include representatives of parent/family, community, business and professional education groups from K-12 and post-secondary education.

7. **School Boards ought to see themselves as directing a system of schools, all of which are accountable for improving student achievement over a 3-5 year period.**
   - Some/perhaps many of the schools will remain places in which the district acts as employer.
   - The district also will contract with some groups to provide teaching programs, as many districts currently do to obtain transportation, testing and other services.

8. **Special education - a truly special situation: Minnesota has a serious problem with special education. It is not a problem of attracting and training enough people to work in this field. The problem is in retaining people to work in this field.**

   - The Legislature ought to create a statewide task force to determine why people trained in several fields of special education appear to leave this field in disproportionately high numbers. Members ought to include parents, award-winning special education teachers, along with representatives of business, community and education groups.

   - Minnesota should urge creation of a similar national task force, perhaps coordinated by the National Governors' Association, National Council of State Legislators, Education Commission of the States, or some similar group. Composition ought to be similar to the

above mentioned task force, along with state and national policy-makers. This group ought to examine whether national issues, including whether changes in the federal law, can help make teaching special education students a more attractive profession.

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APPENDIX

This section contains the following items:

1. The survey sent to principals
2. The letters urging participation
3. Tables summarizing survey results by region
4. Tables summarizing the reasons teachers leave by ECSU district
5. Tables summarizing the percentage and number of teachers projected to retire

Attracting and Retaining High Quality Teachers
A Survey of Minnesota Principals

The following questions are designed to gather information about the supply of high quality teachers in Minnesota. Policy-makers, including legislators, need this information in order to take the steps necessary to ensure an adequate supply of teachers in all of the state's classrooms. Your input is vital.

The following information about your school is being collected to ensure a representative sample. **All identifying information will remain confidential.**

School Name _____ City _____ District # _____
No. of Students _____ % Free and Reduced Lunch _____ Grades served _____

SECTION A: 1999-2000 APPLICANTS

Directions: Please assess the number of high quality (people you feel very comfortable hiring) applicants you had for 1999-2000 school year vacancies in each of the following teaching areas. Circle the number which most accurately describes your impression of the applicant pool. If you had no vacancies in a licensure area, please do not circle a number.

ELEMENTARY (K-6)	SERIOUS SHORTAGE	SLIGHT SHORTAGE	ADEQUATE SUPPLY	SLIGHT SURPLUS	LARGE SURPLUS
Elementary (K-3)	1	2	3	4	5
Elementary (4-6)	1	2	3	4	5
Art	1	2	3	4	5
Library Media Spec.	1	2	3	4	5
Music	1	2	3	4	5
Physical Education	1	2	3	4	5
Reading	1	2	3	4	5
Technology	1	2	3	4	5
World Language	1	2	3	4	5
Other (Specify)	1	2	3	4	5

SPECIAL EDUCATION					
Blind/Visually Impaired	1	2	3	4	5
Deaf/Hard of Hearing	1	2	3	4	5
Developmental Disability	1	2	3	4	5
Emotional Behavior Disorders	1	2	3	4	5
Learning Disabilities	1	2	3	4	5
Physical/Health Disabilities	1	2	3	4	5
Other (Specify)	1	2	3	4	5

SECONDARY (7-12)	SERIOUS SHORTAGE	SLIGHT SHORTAGE	ADEQUATE SUPPLY	SLIGHT SURPLUS	LARGE SURPLUS
Art	1	2	3	4	5
Business	1	2	3	4	5
Communication Arts/Literature	1	2	3	4	5
English as a Second Language	1	2	3	4	5
Family/Consumer Science	1	2	3	4	5
Industrial Arts/ Vocational Ed.	1	2	3	4	5
Library Media Specialist	1	2	3	4	5
Mathematics	1	2	3	4	5
Music	1	2	3	4	5
Physical Education	1	2	3	4	5
Reading	1	2	3	4	5
Science - Earth	1	2	3	4	5
Science - Life	1	2	3	4	5
Science - Physical	1	2	3	4	5
Science - Other (specify)	1	2	3	4	5
Social Studies	1	2	3	4	5
Technology	1	2	3	4	5
Theatre Arts	1	2	3	4	5
World Languages	1	2	3	4	5
French	1	2	3	4	5
Spanish	1	2	3	4	5
German	1	2	3	4	5
Other Specify	1	2	3	4	5

SECTION B: TEACHERS OF COLOR

Please assess the ethnic diversity of your applicant pools. Circle the answer which most accurately describes the number of minority applicants for 1999-2000 vacancies.

Shortage Slight Shortage Adequate Supply Slight Surplus Considerable Surplus Not an Issue for Us

SECTION C: TEACHER RETENTION

As you think about the teachers who have left for reasons other than maternity/paternity in the past five years, how would you rate their effectiveness in the classroom on average?

Highly Effective Effective Average Ineffective

SECTION D: POSSIBLE SOLUTIONS

Check the strategies your school district has used or plans to use to attract high quality applicants and if applicable indicate how successful you think the strategies have been.

Check all that apply Have Used	Plan to Use		**Circle One answer if applicable** How successful has this strategy been?		
☐	☐	Signing bonuses	Very	Moderately	Not Very
☐	☐	Salary schedule credit for relevant non-teaching experience	Very	Moderately	Not Very
☐	☐	District provided retraining of current staff for high needs areas	Very	Moderately	Not Very
☐	☐	Incentives to delay retirements in high needs areas	Very	Moderately	Not Very
☐	☐	Training of para-professionals to meet needs	Very	Moderately	Not Very
☐	☐	Placement above entry-level on salary scale for new high demand teachers	Very	Moderately	Not Very
☐	☐	Alternative licensure	Very	Moderately	Not Very
☐	☐	Other (please list below)			
		1.	Very	Moderately	Not Very
		2.	Very	Moderately	Not Very

We'd like your opinion about possible state-level solutions to the teacher supply issue. Please indicate on a scale of "strongly agree" to "strongly disagree" how you feel about the following proposed solutions.

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
1. Scholarships for students willing to enter high needs teaching areas	4	3	2	1	0
2. Forgiveness of loans for those willing to teach in certain curriculum or geographic areas	4	3	2	1	0
3. Funding of mentorship programs to increase retention of new teachers	4	3	2	1	0
4. Changes to retirement policies which make it financially feasible for retirees to continue teaching or return to teaching	4	3	2	1	0
5. Alternative routes to teacher preparation that encourage mid-career and non-traditional students to enter teaching	4	3	2	1	0
6. Changes in teacher preparation and scholar ships for paraprofessionals willing to work in high needs areas	4	3	2	1	0
7. Early recruitment programs aimed at high school students	4	3	2	1	0
8. Other (Please List)	4	3	2	1	0

Thank you for taking time to fill out this survey.

Please return the survey to Center for School Change, 234 Humphrey Center, 301 19th Avenue, apolis, MN 55455 by September 30, 1999.

Minnesota Elementary School Principals' Association

2380 Wycliff Street, Suite 104 - St. Paul, MN 55114-1257

Phone: (651) 917-4286
Greater Minnesota: 1-800-642-6807
FAX: (651) 917-4288

Terry F. Stansfield
President

Elmer A. Koch, Jr.
Executive Director

Serving Elementary and Middle School Principals

Affiliated with the National Association of Elementary School Principals

September, 1999

Dear MESPA member:

Enclosed is a survey from the Center for School Change, "Attracting and Retaining High Quality Teachers," which I encourage you to take time to review.

We all know that critical shortages in the teaching ranks (as well as administrator ranks!) are with us and will probably only increase in the near future. Therefore, I do hope you will take a few minutes to respond to this survey.

It is my understanding that the results may be helpful in encouaging legistative actions to help us with this particular need of education in Minnesota.

Thanks for your cooperation.

Sincerely,

Elmer A. Koch, Jr.
Executive Director

Minnesota Association of Secondary School Principals

1910 West County Road B, Suite 208
St. Paul, Minnesota 55113-5448
Telephone: 651-636-8366 • Toll Free MN: 800-430-6716 • Fax Number: 651-636-9718
On the Web: http://www.massp.org

Dear Minnesota Secondary Principals:

Enclosed is a survey on teacher supply issues. I would encourage all selected survey participants to thoughtfully answer all questions. The information will be useful to legislators and other policy makers as we look at the future requirements for educational programs.

MASSP encourages research efforts that will enhance the quality of policy decision-making. Hopefully, the legislature will respond positively to this issue when they receive accurate data from your responses.

Sincerely,

Robert J. Schmidt
Executive Director

SUMMARY TABLE - Small Rural (N=396)

* excludes Mankato, Duluth, St. Cloud, Rochester, 7-county metro area

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
ELEMENTARY												
Elementary K-3	153	38.64%	4	2.61%	32	20.92%	59	38.56%	33	21.57%	25	16.34%
Elementary 4-6	135	34.09%	1	0.74%	31	22.96%	51	37.78%	32	23.70%	20	14.81%
Art	61	15.40%	31	50.82%	22	36.07%	7	11.48%	1	1.64%	0	0.00%
Library/Med Spec.	67	16.92%	39	58.21%	22	32.84%	6	8.96%	0	0.00%	0	0.00%
Music	85	21.46%	44	51.76%	35	41.18%	6	7.06%	0	0.00%	0	0.00%
Phy Ed	68	17.17%	4	5.88%	19	27.94%	30	44.12%	10	14.71%	5	7.35%
Reading	59	14.90%	15	25.42%	12	20.34%	26	44.07%	6	10.17%	0	0.00%
Technology	60	15.15%	29	48.33%	21	35.00%	9	15.00%	1	1.67%	0	0.00%
World Languages	40	10.10%	26	65.00%	6	15.00%	6	15.00%	2	5.00%	0	0.00%
SPECIAL ED												
Blind/Vis Impaired	54	13.64%	40	74.07%	13	24.07%	1	1.85%	0	0.00%	0	0.00%
Deaf/Hard Hearing	56	14.14%	45	80.36%	9	16.07%	2	3.57%	0	0.00%	0	0.00%
Dev. Disability	83	20.96%	48	57.83%	28	33.73%	7	8.43%	0	0.00%	0	0.00%
Emot./Beh Disorde	172	43.43%	137	79.65%	27	15.70%	7	4.07%	1	0.58%	0	0.00%
Learning Disabled	152	38.38%	75	49.34%	61	40.13%	13	8.55%	2	1.32%	1	0.66%
Physical/Health	63	15.91%	37	58.73%	20	31.75%	6	9.52%	0	0.00%	0	0.00%
Other	2	0.51%	2	100%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Small Rural (N=396)

* excludes Mankato, Duluth, St. Cloud, Rochester, 7-county metro area

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
SECONDARY												
Art	58	14.65%	20	34.48%	29	50.00%	7	12.07%	1	1.72%	1	1.72%
Business	72	18.18%	38	52.78%	22	30.56%	11	15.28%	1	1.39%	0	0.00%
Comm/Literature	94	23.74%	12	12.77%	43	45.74%	35	37.23%	4	4.26%	0	0.00%
ESL	48	12.12%	29	60.42%	13	27.08%	6	12.50%	0	0.00%	0	0.00%
Family/Consumer S	65	16.41%	52	80.00%	9	13.85%	4	6.15%	0	0.00%	0	0.00%
Industrial Arts	87	21.97%	78	89.66%	8	9.20%	1	1.15%	0	0.00%	0	0.00%
Library/Media Spec	53	13.38%	28	52.83%	18	33.96%	7	13.21%	0	0.00%	0	0.00%
Mathematics	112	28.28%	73	65.18%	30	26.79%	8	7.14%	1	0.89%	0	0.00%
Music	72	18.18%	28	38.89%	30	41.67%	12	16.67%	1	1.39%	1	1.39%
Phy Ed	65	16.41%	1	1.54%	9	13.85%	26	40.00%	17	26.15%	12	18.46%
Reading	44	11.11%	14	31.82%	22	50.00%	7	15.91%	1	2.27%	0	0.00%
Science Earth	64	16.16%	35	54.69%	25	39.06%	4	6.25%	0	0.00%	0	0.00%
Science Life	76	19.19%	39	51.32%	27	35.53%	9	11.84%	0	0.00%	1	1.32%
Science Physical	87	21.97%	67	77.01%	15	17.24%	5	5.75%	0	0.00%	0	0.00%
Science Other	7	1.77%	5	71.43%	2	28.57%	0	0.00%	0	0.00%	0	0.00%
Social Studies	98	24.75%	1	1.02%	17	17.35%	47	47.96%	21	21.43%	12	12.24%
Technology	54	13.64%	34	62.96%	18	33.33%	1	1.85%	1	1.85%	0	0.00%
Theatre	35	8.84%	8	22.86%	20	57.14%	7	20.00%	0	0.00%	0	0.00%
World Langs	47	11.87%	30	63.83%	11	23.40%	5	10.64%	1	2.13%	0	0.00%
French	28	7.07%	17	60.71%	9	32.14%	2	7.14%	0	0.00%	0	0.00%
Spanish	66	16.67%	46	69.70%	15	22.73%	4	6.06%	1	1.52%	0	0.00%
German	33	8.33%	23	69.70%	8	24.24%	2	6.06%	0	0.00%	0	0.00%
Other	2	0.51%		0.00%	1	50.00%	1	50.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Small Rural (N=396)
* excludes Mankato, Duluth, St. Cloud, Rochester, 7-county metro area

SECTION B: TEACHERS OF COLOR

N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequat	N Slight Surplus	% Slight Surplus	N Cons. Surplus	% Cons Surplus	N Not Issue	% Not Issue	N Blank	% Blank
193	49%	40	10%	10	3%	1	0%	0	0	82	21%	62	16%

SECTION C: TEACHER RETENTION

N Highly Effective	% Highly Effective	N Effective	% Effective	N Average	% Average	N Ineffect	% Ineffect	N Blank	% Blank
46	12%	174	44%	113	29%	21	5%	42	11%

SECTION D: POSSIBLE SOLUTIONS

	N Have Used	% Have Used	N Plan to Use	% Plan to Use	N Very Success	N Mod Success	N Not Success
Signing Bonuses	15	4%	7	2%	8	11	2
Salary Credit/Non Teaching	56	14%	20	5%	13	42	8
Retraining Current Staff	57	14%	24	6%	27	32	9
Delaying retirements	12	3%	4	1%	7	9	5
Training Paraprofessionals	82	21%	19	5%	16	54	9
Placement above entry	109	28%	40	10%	43	73	7
Alternative Licensure	125	32%	39	10%	36	73	16

SUMMARY TABLE - Small Rural (N=396)

* excludes Mankato, Duluth, St. Cloud, Rochester, 7-county metro area

SECTION D: POSSIBLE SOLUTIONS

	N Strong Agree	% Strong Agree	N Agree	% Agree	N Disagree	% Disagree	N Strongly Disagree	% Strong Disagree	N No Opin	% No Opin	N Blank	% Blank
Scholarships High Needs Areas	168	42%	183	46%	18	5%	5	1%	6	2%	16	4%
Loan forgiveness	189	48%	139	35%	35	9%	15	4%	4	1%	14	4%
Mentorship funding	131	33%	190	48%	28	7%	8	2%	26	7%	13	3%
Changes in retirements	98	25%	139	35%	96	24%	31	8%	16	4%	21	5%
Alternative routes	82	21%	191	48%	57	14%	27	7%	24	6%	15	4%
Paraprofessional training	63	16%	195	49%	68	17%	24	6%	30	8%	16	4%
Early Recruitment	84	21%	214	54%	34	9%	11	3%	24	6%	29	7%

SUMMARY TABLE - Midsize Rural Cities (N=80)

* includes Mankato, Duluth, St. Cloud, Rochester

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
ELEMENTARY												
Elementary K-3	35	43.75%	1	2.86%	9	25.71%	20	57.14%	5	14.29%	5	14.29%
Elementary 4-6	34	42.50%	3	8.82%	9	26.47%	13	38.24%	5	14.71%	4	11.76%
Art	19	23.75%	8	42.11%	8	42.11%	2	10.53%	1	5.26%	0	0.00%
Library/Med Spec.	13	16.25%	7	53.85%	5	38.46%	0	0.00%	1	7.69%	0	0.00%
Music	18	22.50%	14	77.78%	2	11.11%	1	5.56%	0	0.00%	1	5.56%
Phy Ed	20	25.00%	2	10.00%	6	30.00%	11	55.00%	1	5.00%	0	0.00%
Reading	14	17.50%	7	50.00%	4	28.57%	3	21.43%	0	0.00%	0	0.00%
Technology	13	16.25%	8	61.54%	3	23.08%	2	15.38%	0	0.00%	0	0.00%
World Languages	4	5.00%	2	50.00%	0	0.00%	2	50.00%	0	0.00%	0	0.00%
SPECIAL ED												
Blind/Vis Impaired	5	6.25%	3	60.00%	2	40.00%	0	0.00%	0	0.00%	0	0.00%
Deaf/Hard Hearing	7	8.75%	4	57.14%	3	42.86%	0	0.00%	0	0.00%	0	0.00%
Dev. Disability	13	16.25%	8	61.54%	5	38.46%	0	0.00%	0	0.00%	0	0.00%
Emot./Beh Disorde	30	37.50%	23	76.67%	7	23.33%	0	0.00%	0	0.00%	0	0.00%
Learning Disabled	23	28.75%	10	43.48%	10	43.48%	3	13.04%	0	0.00%	1	4.35%
Physical/Health	4	5.00%	3	75.00%	1	25.00%	0	0.00%	0	0.00%	0	0.00%
Other	0	0.00%	0	0%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Midsize Rural Cities (N=80)

* includes Mankato, Duluth, St. Cloud, Rochester

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
SECONDARY												
Art	11	13.75%	4	36.36%	5	45.45%	1	9.09%	1	9.09%	0	0.00%
Business	16	20.00%	13	81.25%	3	18.75%	0	0.00%	0	0.00%	0	0.00%
Comm/Literature	23	28.75%	4	17.39%	11	47.83%	6	26.09%	2	8.70%	0	0.00%
ESL	14	17.50%	8	57.14%	4	28.57%	1	7.14%	0	0.00%	1	7.14%
Family/Consumer S	15	18.75%	10	66.67%	5	33.33%	0	0.00%	0	0.00%	0	0.00%
Industrial Arts	14	17.50%	12	85.71%	2	14.29%	0	0.00%	0	0.00%	0	0.00%
Library/Media Spec	12	15.00%	4	33.33%	4	33.33%	3	25.00%	1	8.33%	0	0.00%
Mathematics	18	22.50%	7	38.89%	9	50.00%	2	11.11%	0	0.00%	0	0.00%
Music	17	21.25%	5	29.41%	9	52.94%	2	11.76%	1	5.88%	0	0.00%
Phy Ed	15	18.75%	0	0.00%	1	6.67%	7	46.67%	3	20.00%	4	26.67%
Reading	14	17.50%	9	64.29%	2	14.29%	3	21.43%	0	0.00%	0	0.00%
Science Earth	10	12.50%	4	40.00%	4	40.00%	2	20.00%	0	0.00%	0	0.00%
Science Life	13	16.25%	6	46.15%	4	30.77%	3	23.08%	0	0.00%	0	0.00%
Science Physical	14	17.50%	11	78.57%	1	7.14%	2	14.29%	0	0.00%	0	0.00%
Science Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Social Studies	22	27.50%	1	4.55%	3	13.64%	11	50.00%	4	18.18%	3	13.64%
Technology	13	16.25%	7	53.85%	5	38.46%	1	7.69%	0	0.00%	0	0.00%
Theatre	6	7.50%	1	16.67%	4	66.67%	1	16.67%	0	0.00%	0	0.00%
World Langs	11	13.75%	7	63.64%	3	27.27%	1	9.09%	0	0.00%	0	0.00%
French	8	10.00%	5	62.50%	2	25.00%	1	12.50%	0	0.00%	0	0.00%
Spanish	14	17.50%	9	64.29%	4	28.57%	1	7.14%	0	0.00%	0	0.00%
German	10	12.50%	7	70.00%	2	20.00%	1	10.00%	0	0.00%	0	0.00%
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Midsize Rural Cities (N=80)
* includes Mankato, Duluth, St. Cloud, Rochester

SECTION B: TEACHERS OF COLOR

N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequat	N Slight Surplus	% Slight Surplus	N Cons. Surplus	% Cons Surplus	N Not Issue	% Not Issue	N Blank	% Blank
43	54%	5	6%	1	1%	0	0%	2	3%	13	16%	16	20%

SECTION C: TEACHER RETENTION

N Highly Effective	% Highly Effective	N Effective	% Effective	N Average	% Average	N Ineffect	% Ineffect	N Blank	% Blank
11	14%	37	46%	14	18%	8	10%	10	13%

SECTION D: POSSIBLE SOLUTIONS

	N Have Used	% Have Used	N Plan to Use	% Plan to Use	N Very Success	N Mod Success	N Not Success
Signing Bonuses	0	0%	2	3%	0	0	0
Salary Credit/Non Teaching	9	11%	5	6%	1	9	0
Retraining Current Staff	5	6%	10	13%	2	5	0
Delaying retirements	2	3%	1	1%	0	1	0
Training Paraprofessionals	6	8%	3	4%	4	2	0
Placement above entry	16	20%	13	16%	3	14	0
Alternative Licensure	19	24%	6	8%	5	12	3

SUMMARY TABLE - Midsize Rural Cities (N=80)

* includes Mankato, Duluth, St. Cloud, Rochester

SECTION D: POSSIBLE SOLUTIONS

	N Strong Agree	% Strong Agree	N Agree	% Agree	N Disagree	% Disagree	N Strongly Disagree	% Strong Disagree	N No Opin	% No Opin	N Blank	% Blank
Scholarships High Needs Areas	40	50%	34	43%	3	4%	0	0%	0	0%	3	4%
Loan forgiveness	32	40%	40	50%	6	8%	1	1%	1	1%	0	0%
Mentorship funding	33	41%	39	49%	2	3%	0	0%	4	5%	2	3%
Changes in retirements	19	24%	30	38%	19	24%	4	5%	8	10%	0	0%
Alternative routes	18	23%	40	50%	14	18%	2	3%	4	5%	2	3%
Paraprofessional training	14	18%	38	48%	16	20%	38	48%	5	6%	2	3%
Early Recruitment	21	26%	40	50%	10	13%	0	0%	7	9%	2	3%

SUMMARY TABLE - Suburban (N=182)

* Seven county metro area except Minneapolis and St. Paul

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
ELEMENTARY												
Elementary K-3	119	65.38%	3	2.52%	22	18.49%	63	52.94%	21	17.65%	10	8.40%
Elementary 4-6	110	60.44%	6	5.45%	21	19.09%	62	56.36%	12	10.91%	9	8.18%
Art	53	29.12%	20	37.74%	19	35.85%	14	26.42%	0	0.00%	0	0.00%
Library/Med Spec.	64	35.16%	49	76.56%	11	17.19%	3	4.69%	1	1.56%	0	0.00%
Music	68	37.36%	28	41.18%	30	44.12%	9	13.24%	1	1.47%	0	0.00%
Phy Ed	56	30.77%	3	5.36%	20	35.71%	23	41.07%	9	16.07%	1	1.79%
Reading	44	24.18%	11	25.00%	21	47.73%	12	27.27%	0	0.00%	0	0.00%
Technology	48	26.37%	29	60.42%	15	31.25%	4	8.33%	0	0.00%	0	0.00%
World Languages	29	15.93%	15	51.72%	10	34.48%	4	13.79%	0	0.00%	0	0.00%
SPECIAL ED												
Blind/Vis Impaired	29	15.93%	17	58.62%	7	24.14%	5	17.24%	0	0.00%	0	0.00%
Deaf/Hard Hearing	30	16.48%	19	63.33%	7	23.33%	4	13.33%	0	0.00%	0	0.00%
Dev. Disability	43	23.63%	27	62.79%	13	30.23%	3	6.98%	0	0.00%	0	0.00%
Emot./Beh Disorder	114	62.64%	94	82.46%	17	14.91%	3	2.63%	0	0.00%	0	0.00%
Learning Disabled	106	58.24%	51	48.11%	46	43.40%	9	8.49%	0	0.00%	0	0.00%
Physical/Health	42	23.08%	22	52.38%	13	30.95%	7	16.67%	0	0.00%	0	0.00%
Other	4	2.20%	1	100%	0	0.00%	1	25.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Suburban (N=182)

* Seven county metro area except Minneapolis and St. Paul

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
SECONDARY												
Art	29	15.93%	3	10.34%	8	27.59%	17	58.62%	1	3.45%	0	0.00%
Business	27	14.84%	13	48.15%	10	37.04%	13	48.15%	1	3.70%	0	0.00%
Comm/Literature	40	21.98%	1	2.50%	12	30.00%	18	45.00%	6	15.00%	3	7.50%
ESL	24	13.19%	13	54.17%	10	41.67%	1	4.17%	0	0.00%	0	0.00%
Family/Consumer Sci	39	21.43%	18	46.15%	18	46.15%	3	7.69%	0	0.00%	0	0.00%
Industrial Arts	39	21.43%	39	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Library/Media Spec.	30	16.48%	16	53.33%	10	33.33%	4	13.33%	0	0.00%	0	0.00%
Mathematics	45	24.73%	20	44.44%	19	42.22%	5	11.11%	1	2.22%	0	0.00%
Music	35	19.23%	4	11.43%	13	37.14%	17	48.57%	1	2.86%	0	0.00%
Phy Ed	32	17.58%	1	3.13%	4	12.50%	10	31.25%	10	31.25%	7	21.88%
Reading	27	14.84%	13	48.15%	13	48.15%	1	3.70%	0	0.00%	0	0.00%
Science Earth	29	15.93%	12	41.38%	14	48.28%	3	10.34%	0	0.00%	0	0.00%
Science Life	34	18.68%	9	26.47%	11	32.35%	9	26.47%	4	11.76%	1	2.94%
Science Physical	46	25.27%	31	67.39%	11	23.91%	3	6.52%	0	0.00%	1	2.17%
Science Other	6	3.30%	3	50.00%	2	33.33%	1	16.67%	0	0.00%	0	0.00%
Social Studies	45	24.73%	0	0.00%	3	6.67%	20	44.44%	11	24.44%	11	24.44%
Technology	32	17.58%	19	59.38%	9	28.13%	3	9.38%	1	3.13%	0	0.00%
Theatre	21	11.54%	3	14.29%	9	42.86%	7	33.33%	2	9.52%	0	0.00%
World Langs	29	15.93%	9	31.03%	13	44.83%	7	24.14%	0	0.00%	0	0.00%
French	25	13.74%	5	20.00%	13	52.00%	7	28.00%	0	0.00%	0	0.00%
Spanish	42	23.08%	14	33.33%	13	30.95%	13	30.95%	1	2.38%	1	2.38%
German	26	14.29%	8	30.77%	12	46.15%	5	19.23%	1	3.85%	0	0.00%
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Suburban (N=182)

* Seven county metro area except Minneapolis and St. Paul

SECTION B: TEACHERS OF COLOR

N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Cons. Surplus	% Cons Surplus	N Not Issue	% Not Issue	N Blank	% Blank
148	81%	17	9%	1	1%	0	0%	0	0%	7	4%	9	5%

SECTION C: TEACHER RETENTION

N Highly Effective	% Highly Effective	N Effective	% Effective	N Average	% Average	N Ineffect	% Ineffect	N Blank	% Blank
25	14%	86	47%	42	23%	11	6%	18	10%

SECTION D: POSSIBLE SOLUTIONS

	N Have Used	% Have Used	N Plan to Use	% Plan to Use	N Very Success	N Mod Success	N Not Success
Signing Bonuses	6	3%	4	2%	2	3	2
Salary Credit/Non Teaching	24	13%	5	3%	8	15	3
Retraining Current Staff	14	8%	7	4%	5	12	0
Delaying retirements	4	2%	1	1%	1	4	0
Training Paraprofessionals	43	24%	7	4%	12	24	6
Placement above entry	61	34%	15	8%	22	31	3
Alternative Licensure	50	27%	8	4%	12	31	6

SUMMARY TABLE - Suburban (N=182)

* Seven county metro area except Minneapolis and St. Paul

SECTION D: POSSIBLE SOLUTIONS

	N Strong Agree	% Strong Agree	N Agree	% Agree	N Disagree	% Disagree	N Strongly Disagree	% Strong Disagree	N No Opin	% No Opin	N Blank	% Blank
Scholarships High Needs Areas	87	48%	81	45%	6	3%	2	1%	1	1%	5	3%
Loan forgiveness	68	37%	76	42%	19	10%	7	4%	8	4%	4	2%
Mentorship funding	95	52%	73	40%	7	4%	1	1%	3	2%	3	2%
Changes in retirements	55	30%	68	37%	35	19%	12	7%	8	4%	4	2%
Alternative routes	51	28%	99	54%	21	12%	2	1%	0	0%	6	3%
Paraprofessional training	44	24%	82	45%	29	16%	9	5%	10	5%	8	4%
Early Recruitment	62	34%	92	51%	8	4%	2	1%	12	7%	6	3%

SUMMARY TABLE - Urban (N=52)

* Minneapolis and St. Paul

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
ELEMENTARY												
Elementary K-3	28	53.85%	2	7.14%	8	28.57%	13	46.43%	4	14.29%	1	3.57%
Elementary 4-6	30	57.69%	2	6.67%	8	26.67%	15	50.00%	4	13.33%	1	3.33%
Art	13	25.00%	0	0.00%	8	61.54%	4	30.77%	1	7.69%	0	0.00%
Library/Med Spec.	15	28.85%	5	33.33%	8	53.33%	2	13.33%	0	0.00%	0	0.00%
Music	14	26.92%	6	42.86%	6	42.86%	2	14.29%	0	0.00%	0	0.00%
Phy Ed	12	23.08%	1	8.33%	6	50.00%	4	33.33%	1	8.33%	0	0.00%
Reading	11	21.15%	4	36.36%	2	18.18%	5	45.45%	0	0.00%	0	0.00%
Technology	12	23.08%	5	41.67%	5	41.67%	2	16.67%	0	0.00%	0	0.00%
World Languages	10	19.23%	7	70.00%	2	20.00%	1	10.00%	0	0.00%	0	0.00%
SPECIAL ED												
Blind/Vis Impaired	7	13.46%	3	42.86%	2	28.57%	2	28.57%	0	0.00%	0	0.00%
Deaf/Hard Hearing	7	13.46%	3	42.86%	2	28.57%	2	28.57%	0	0.00%	0	0.00%
Dev. Disability	13	25.00%	9	69.23%	4	30.77%	0	0.00%	0	0.00%	0	0.00%
Emot./Beh Disorder	22	42.31%	20	90.91%	2	9.09%	0	0.00%	0	0.00%	0	0.00%
Learning Disabled	22	42.31%	14	63.64%	7	31.82%	0	0.00%	0	0.00%	1	4.55%
Physical/Health	9	17.31%	6	66.67%	2	22.22%	1	11.11%	0	0.00%	0	0.00%
Other	1	1.92%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Urban (N=43)

* Minneapolis and St. Paul

	Reported Vacancies	% of all	N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Large Surplus	% Large Surplus
SECONDARY												
Art	7	13.46%	1	14.29%	5	71.43%	1	14.29%	0	0.00%	0	0.00%
Business	6	11.54%	1	16.67%	3	50.00%	2	33.33%	0	0.00%	0	0.00%
Comm/Literature	5	9.62%	0	0.00%	1	20.00%	4	80.00%	0	0.00%	0	0.00%
ESL	11	21.15%	3	27.27%	5	45.45%	3	27.27%	0	0.00%	0	0.00%
Family/Consumer Sci	5	9.62%	1	20.00%	3	60.00%	1	20.00%	0	0.00%	0	0.00%
Industrial Arts	7	13.46%	5	71.43%	2	28.57%	0	0.00%	0	0.00%	0	0.00%
Library/Media Spec.	4	7.69%	0	0.00%	2	50.00%	2	50.00%	0	0.00%	0	0.00%
Mathematics	17	32.69%	16	94.12%	1	5.88%	0	0.00%	0	0.00%	0	0.00%
Music	6	11.54%	2	33.33%	3	50.00%	1	16.67%	0	0.00%	0	0.00%
Phy Ed	6	11.54%	0	0.00%	2	33.33%	3	50.00%	1	16.67%	0	0.00%
Reading	7	13.46%	2	28.57%	3	42.86%	2	28.57%	0	0.00%	0	0.00%
Science Earth	8	15.38%	5	62.50%	2	25.00%	1	12.50%	0	0.00%	0	0.00%
Science Life	11	21.15%	7	63.64%	3	27.27%	1	9.09%	0	0.00%	1	9.09%
Science Physical	10	19.23%	7	70.00%	3	30.00%	0	0.00%	0	0.00%	0	0.00%
Science Other	1	1.92%	1	100.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%
Social Studies	8	15.38%	0	0.00%	1	12.50%	6	75.00%	1	12.50%	0	0.00%
Technology	5	9.62%	2	40.00%	3	60.00%	0	0.00%	0	0.00%	0	0.00%
Theatre	5	9.62%	0	0.00%	3	60.00%	2	40.00%	0	0.00%	0	0.00%
World Langs	3	5.77%	0	0.00%	0	0.00%	3	100.00%	1	33.33%	0	0.00%
French	6	11.54%	2	33.33%	1	16.67%	3	50.00%	0	0.00%	0	0.00%
Spanish	7	13.46%	3	42.86%	1	14.29%	3	42.86%	1	14.29%	0	0.00%
German	4	7.69%	0	0.00%	0	0.00%	4	100.00%	0	0.00%	0	0.00%
Other	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

SUMMARY TABLE - Urban (N=52)
* includes Minneapolis and St. Paul

SECTION B: TEACHERS OF COLOR

N Serious Shortage	% Serious Shortage	N Slight Shortage	% Slight Shortage	N Adequate	% Adequate	N Slight Surplus	% Slight Surplus	N Cons. Surplus	% Cons Surplus	N Not Issue	% Not Issue	N Blank	% Blank
39	75%	8	15%	0	0%	0	0%	0	0%	0	0%	5	10%

SECTION C: TEACHER RETENTION

N Highly Effective	% Highly Effective	N Effective	% Effective	N Average	% Average	N Ineffect	% Ineffect	N Blank	% Blank
5	10%	22	42%	16	31%	3	6%	6	12%

SECTION D: POSSIBLE SOLUTIONS

	N Have Used	% Have Used	N Plan to Use	% Plan to Use	N Very Success	% Very Success	N Mod Success	% Mod Success	N Not Success	% Not Success
Signing Bonuses	3	6%	2	4%	1		3		0	
Salary Credit/Non Teaching	12	23%	4	8%	6		7		0	
Retraining Current Staff	10	19%	2	4%	3		7		0	
Delaying retirements	2	4%	2	4%	0		3		0	
Training Paraprofessionals	27	52%	2	4%	14		13		1	
Placement above entry	15	29%	1	2%	9		8		0	
Alternative Licensure	32	62%	1	2%	16		15		0	

SUMMARY TABLE - Urban (N=52)
* includes Minneapolis and St. Paul

SECTION D: POSSIBLE SOLUTIONS

	N Strong Agree	% Strong Agree	N Agree	% Agree	N Disagree	% Disagree	N Strongly Disagree	% Strong Disagree	N No Opin	% No Opin	N Blank	% Blank
Scholarships High Needs Areas	30	58%	19	37%	2	4%	0	0%	1	2%	2	4%
Loan forgiveness	31	60%	14	27%	5	10%	0	0%	1	2%	1	2%
Mentorship funding	35	67%	14	27%	2	4%	0	0%	0	0%	1	2%
Changes in retirements	18	35%	23	44%	6	12%	4	8%	0	0%	1	2%
Alternative routes	28	54%	18	35%	5	10%	0	0%	0	0%	1	2%
Paraprofessional training	19	37%	25	48%	5	10%	1	2%	1	2%	1	2%
Early Recruitment	23	44%	24	46%	2	4%	0	0%	1	2%	2	4%

Reasons for Minnesota Teachers Leaving Statewide, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	47	0.08%	60	0.10%	35	0.06%	38	0.06%	48	0.08%
Educator in Another State or Outside US	127	0.22%	177	0.30%	96	0.16%	192	0.31%	162	0.25%
Extended Leave / Alternative Career Exploration / Sabbatical	446	0.78%	427	0.72%	486	0.81%	320	0.52%	458	0.72%
Illness	213	0.37%	205	0.35%	187	0.31%	113	0.18%	188	0.30%
Left to become a Substitute Teacher	112	0.20%	59	0.10%	72	0.12%	200	0.32%	159	0.25%
Maternity / Paternity / Adoption	246	0.43%	258	0.44%	209	0.35%	157	0.25%	301	0.47%
Not Offered Reemployment for Reasons other than Reduction	212	0.37%	218	0.37%	151	0.25%	226	0.37%	256	0.40%
Personal Reasons	158	0.28%	389	0.66%	423	0.71%	874	1.42%	1429	2.24%
Professional Growth	224	0.39%	207	0.35%	168	0.28%	94	0.15%	150	0.24%
Retirement	846	1.48%	957	1.62%	800	1.34%	1614	2.62%	1548	2.43%
Staff Reduction / Unrequested Leave	394	0.69%	517	0.87%	233	0.39%	356	0.58%	348	0.55%
Unknown	443	0.77%	1234	2.09%	2770	4.64%	804	1.30%	567	0.89%
Other	1025	1.79%	200	0.34%	67	0.11%	53	0.09%	81	0.13%
Sum	4493	7.85%	4908	8.30%	5697	9.54%	5041	8.17%	5695	8.94%
Total Number of Teachers Employed	57222		59122		59705		61683		63695	

Reasons for Teachers Leaving in ECSU-1, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	1	0.04%	5	0.20%	4	0.15%	3	0.11%	2	0.07%
Educator in Another State or Outside US	9	0.39%	12	0.48%	13	0.49%	19	0.68%	19	0.67%
Extended Leave / Alternative Career-Exploration / Sabbatical	12	0.52%	18	0.72%	14	0.52%	16	0.57%	23	0.81%
Illness	2	0.09%	3	0.12%	5	0.19%	5	0.18%	4	0.14%
Left to become a Substitute Teacher	4	0.17%	0	0.00%	3	0.11%	3	0.11%	5	0.18%
Maternity / Paternity / Adoption	3	0.13%	2	0.08%	3	0.11%	1	0.04%	2	0.07%
Not Offered Reemployment for Reasons other than Reduction	9	0.39%	0	0.00%	5	0.19%	6	0.21%	17	0.60%
Personal Reasons	4	0.17%	6	0.24%	19	0.71%	29	1.04%	27	0.95%
Professional Growth	6	0.26%	3	0.12%	9	0.34%	2	0.07%	2	0.07%
Retirement	40	1.72%	41	1.64%	24	0.90%	60	2.15%	82	2.90%
Staff Reduction / Unrequested Leave	14	0.60%	16	0.64%	6	0.22%	17	0.61%	2	0.07%
Unknown	12	0.52%	49	1.96%	119	4.45%	30	1.07%	11	0.39%
Other	45	1.94%	31	1.24%	1	0.04%	3	0.11%	12	0.42%
Sum	161	6.92%	186	7.45%	225	8.42%	194	6.95%	208	7.36%
Total Number of Teachers Employed	2325		2498		2673		2793		2828	

Reasons for Teachers Leaving in ECSU-3, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	6	0.15%	1	0.02%	1	0.02%	4	0.10%	3	0.07%
Educator in Another State or Outside US	1	0.03%	11	0.27%	7	0.17%	14	0.34%	12	0.28%
Extended Leave / Alternative Career Exploration / Sabbatical	42	1.07%	26	0.64%	18	0.45%	14	0.34%	33	0.78%
Illness	17	0.43%	17	0.42%	17	0.42%	9	0.22%	9	0.21%
Left to become a Substitute Teacher	5	0.13%	5	0.12%	0	0.00%	8	0.19%	14	0.33%
Maternity / Paternity / Adoption	7	0.18%	6	0.15%	14	0.35%	3	0.07%	7	0.17%
Not Offered Reemployment for Reasons other than Reduction	17	0.43%	22	0.54%	5	0.12%	29	0.70%	25	0.59%
Personal Reasons	24	0.61%	12	0.30%	22	0.55%	52	1.25%	71	1.68%
Professional Growth	8	0.20%	5	0.12%	5	0.12%	3	0.07%	10	0.24%
Retirement	84	2.13%	82	2.03%	63	1.57%	161	3.86%	160	3.78%
Staff Reduction / Unrequested Leave	25	0.64%	33	0.82%	13	0.32%	24	0.58%	25	0.59%
Unknown	36	0.91%	84	2.08%	221	5.51%	21	0.50%	26	0.61%
Other	33	0.84%	9	0.22%	10	0.25%	4	0.10%	5	0.12%
Sum	305	7.75%	313	7.75%	396	9.88%	346	8.30%	400	9.44%
Total Number of Teachers Employed	3935		4037		4010		4170		4236	

Reasons for Teachers Leaving in ECSU-4, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	1	0.04%	6	0.22%	4	0.14%	1	0.03%	0	0.00%
Educator in Another State or Outside US	10	0.39%	10	0.36%	4	0.14%	17	0.58%	13	0.44%
Extended Leave / Alternative Career-Exploration / Sabbatical	15	0.59%	24	0.87%	21	0.74%	19	0.65%	24	0.81%
Illness	4	0.16%	3	0.11%	3	0.11%	8	0.27%	7	0.24%
Left to become a Substitute Teacher	0	0.00%	1	0.04%	1	0.04%	2	0.07%	4	0.14%
Maternity / Paternity / Adoption	1	0.04%	2	0.07%	5	0.18%	10	0.34%	4	0.14%
Not Offered Reemployment for Reasons other than Reduction	8	0.31%	8	0.29%	13	0.46%	12	0.41%	12	0.41%
Personal Reasons	5	0.20%	17	0.62%	20	0.70%	42	1.43%	35	1.18%
Professional Growth	4	0.16%	6	0.22%	4	0.14%	2	0.07%	2	0.07%
Retirement	42	1.65%	41	1.49%	60	2.11%	62	2.11%	80	2.71%
Staff Reduction / Unrequested Leave	13	0.51%	11	0.40%	18	0.63%	19	0.65%	15	0.51%
Unknown	11	0.43%	92	3.35%	119	4.19%	29	0.99%	34	1.15%
Other	28	1.10%	11	0.40%	2	0.07%	2	0.07%	2	0.07%
Sum	142	5.57%	232	8.44%	274	9.65%	225	7.66%	232	7.85%
Total Number of Teachers Employed	2550		2749		2840		2936		2956	

Reasons for Teachers Leaving in ECSU-5, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	3	0.17%	1	0.05%	0	0.00%	2	0.09%	0	0.00%
Educator in Another State or Outside US	2	0.11%	4	0.20%	4	0.19%	9	0.40%	5	0.22%
Extended Leave / Alternative Career Exploration / Sabbatical	10	0.55%	13	0.64%	14	0.65%	15	0.67%	18	0.78%
Illness	4	0.22%	6	0.30%	4	0.19%	4	0.18%	5	0.22%
Left to become a Substitute Teacher	2	0.11%	2	0.10%	1	0.05%	2	0.09%	3	0.13%
Maternity / Paternity / Adoption	5	0.28%	7	0.34%	2	0.09%	7	0.31%	3	0.13%
Not Offered Reemployment for Reasons other than Reduction	4	0.22%	10	0.49%	6	0.28%	9	0.40%	14	0.61%
Personal Reasons	1	0.06%	9	0.44%	18	0.83%	27	1.21%	28	1.21%
Professional Growth	5	0.28%	1	0.05%	0	0.00%	2	0.09%	2	0.09%
Retirement	26	1.43%	32	1.58%	27	1.25%	46	2.07%	56	2.42%
Staff Reduction / Unrequested Leave	5	0.28%	13	0.64%	8	0.37%	13	0.58%	8	0.35%
Unknown	7	0.39%	88	4.33%	57	2.64%	5	0.22%	5	0.22%
Other	22	1.21%	3	0.15%	1	0.05%	5	0.22%	7	0.30%
Sum	96	5.30%	189	9.31%	142	6.57%	146	6.56%	154	6.67%
Total Number of Teachers Employed	1812		2030		2160		2227		2310	

Reasons for Teachers Leaving in ECSU-6, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	4	0.12%	6	0.16%	2	0.05%	4	0.09%	6	0.14%
Educator in Another State or Outside US	14	0.41%	24	0.63%	22	0.51%	32	0.73%	19	0.43%
Extended Leave / Alternative Career-Exploration / Sabbatical	14	0.41%	19	0.50%	19	0.44%	11	0.25%	14	0.32%
Illness	5	0.15%	8	0.21%	15	0.35%	10	0.23%	11	0.25%
Left to become a Substitute Teacher	2	0.06%	3	0.08%	6	0.14%	3	0.07%	1	0.02%
Maternity / Paternity / Adoption	2	0.06%	10	0.26%	14	0.33%	8	0.18%	14	0.32%
Not Offered Reemployment for Reasons other than Reduction	12	0.36%	15	0.39%	9	0.21%	22	0.50%	13	0.29%
Personal Reasons	6	0.18%	23	0.61%	20	0.47%	48	1.10%	70	1.58%
Professional Growth	1	0.03%	3	0.08%	4	0.09%	6	0.14%	6	0.14%
Retirement	48	1.42%	77	2.03%	45	1.05%	101	2.31%	116	2.61%
Staff Reduction / Unrequested Leave	21	0.62%	34	0.89%	19	0.44%	28	0.64%	20	0.45%
Unknown	22	0.65%	100	2.63%	328	7.67%	17	0.39%	7	0.16%
Other	40	1.19%	22	0.58%	4	0.09%	14	0.32%	15	0.34%
Sum	191	5.66%	344	9.06%	507	11.85%	304	6.94%	312	7.03%
Total Number of Teachers Employed	3375		3799		4278		4379		4441	

Reasons for Teachers Leaving in ECSU-7, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	4	0.08%	7	0.12%	2	0.03%	7	0.11%	9	0.14%
Educator in Another State or Outside US	22	0.41%	15	0.26%	7	0.12%	16	0.26%	19	0.30%
Extended Leave / Alternative Career Exploration / Sabbatical	53	0.99%	41	0.71%	36	0.61%	44	0.71%	54	0.84%
Illness	15	0.28%	20	0.35%	14	0.24%	13	0.21%	17	0.27%
Left to become a Substitute Teacher	14	0.26%	11	0.19%	10	0.17%	12	0.19%	30	0.47%
Maternity / Paternity / Adoption	32	0.60%	23	0.40%	23	0.39%	25	0.40%	38	0.59%
Not Offered Reemployment for Reasons other than Reduction	15	0.28%	35	0.61%	18	0.30%	27	0.44%	22	0.34%
Personal Reasons	17	0.32%	48	0.83%	55	0.93%	125	2.02%	178	2.78%
Professional Growth	19	0.36%	16	0.28%	15	0.25%	7	0.11%	12	0.19%
Retirement	55	1.03%	61	1.06%	69	1.17%	106	1.71%	109	1.70%
Staff Reduction / Unrequested Leave	43	0.81%	28	0.49%	17	0.29%	58	0.94%	37	0.58%
Unknown	52	0.98%	135	2.35%	164	2.77%	23	0.37%	24	0.37%
Other	56	1.05%	24	0.42%	7	0.12%	7	0.11%	10	0.16%
Sum	397	7.45%	464	8.06%	437	7.38%	470	7.58%	559	8.73%
Total Number of Teachers Employed	5332		5756		5920		6198		6406	

Reasons for Teachers Leaving in ECSU-9, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	1	0.04%	2	0.07%	0	0.00%	4	0.13%	2	0.07%
Educator in Another State or Outside US	9	0.35%	6	0.22%	4	0.14%	14	0.47%	12	0.40%
Extended Leave / Alternative Career-Exploration / Sabbatical	9	0.35%	11	0.41%	9	0.32%	17	0.57%	16	0.53%
Illness	5	0.20%	5	0.19%	3	0.11%	4	0.13%	6	0.20%
Left to become a Substitute Teacher	5	0.20%	5	0.19%	2	0.07%	7	0.24%	13	0.43%
Maternity / Paternity / Adoption	6	0.24%	10	0.37%	9	0.32%	5	0.17%	8	0.26%
Not Offered Reemployment for Reasons other than Reduction	14	0.55%	10	0.37%	14	0.50%	19	0.64%	12	0.40%
Personal Reasons	1	0.04%	14	0.52%	29	1.04%	43	1.45%	40	1.32%
Professional Growth	11	0.43%	7	0.26%	12	0.43%	2	0.07%	1	0.03%
Retirement	37	1.45%	52	1.92%	36	1.29%	65	2.19%	78	2.58%
Staff Reduction / Unrequested Leave	7	0.27%	20	0.74%	15	0.54%	16	0.54%	26	0.86%
Unknown	19	0.74%	62	2.29%	141	5.04%	30	1.01%	19	0.63%
Other	42	1.65%	13	0.48%	3	0.11%	5	0.17%	1	0.03%
Sum	166	6.50%	217	8.03%	277	9.90%	231	7.77%	234	7.74%
Total Number of Teachers Employed	2553		2702		2798		2972		3025	

Reasons for Teachers Leaving in ECSU 10, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	4	0.08%	4	0.07%	10	0.18%	4	0.07%	2	0.04%
Educator in Another State or Outside U S	23	0.44%	25	0.47%	24	0.44%	22	0.39%	25	0.44%
Extended Leave / Alternative Career- Exploration / Sabbatical	25	0.48%	16	0.30%	20	0.36%	17	0.30%	30	0.53%
Illness	17	0.32%	16	0.30%	11	0.20%	10	0.18%	7	0.12%
Left to become a Substitute Teacher	17	0.32%	8	0.15%	11	0.20%	7	0.12%	14	0.25%
Maternity / Paternity / Adoption	29	0.55%	18	0.34%	11	0.20%	22	0.39%	29	0.51%
Not Offered Reemployment for Reasons other than Reduction	18	0.34%	12	0.22%	11	0.20%	21	0.37%	19	0.33%
Personal Reasons	11	0.21%	17	0.32%	31	0.56%	59	1.05%	117	2.06%
Professional Growth	19	0.36%	11	0.21%	6	0.11%	3	0.05%	4	0.07%
Retirement	96	1.83%	95	1.77%	119	2.16%	173	3.09%	188	3.31%
Staff Reduction / Unrequested Leave	47	0.90%	23	0.43%	20	0.36%	45	0.80%	41	0.72%
Unknown	44	0.84%	114	2.13%	198	3.60%	62	1.11%	22	0.39%
Other	73	1.39%	16	0.30%	7	0.13%	2	0.04%	7	0.12%
Sum	423	8.08%	375	6.99%	479	8.70%	447	7.98%	505	8.89%
Total Number of Teachers Employed	5238		5362		5507		5601		5678	

Reasons for Teachers Leaving in ECSU-11, 1992-1998

Reason	93-94		94-95		95-96		96-97		97-98	
	n	percent	n	percent	n	percent	n	percent	n	percent
Death	21	0.08%	26	0.09%	12	0.04%	8	0.03%	24	0.08%
Educator in Another State or Outside US	31	0.11%	67	0.23%	10	0.03%	49	0.16%	38	0.12%
Extended Leave / Alternative Career-Exploration / Sabbatical	247	0.89%	245	0.86%	333	1.14%	167	0.55%	246	0.77%
Illness	142	0.51%	125	0.44%	115	0.40%	50	0.16%	122	0.38%
Left to become a Substitute Teacher	61	0.22%	23	0.08%	36	0.12%	156	0.51%	75	0.24%
Maternity / Paternity / Adoption	153	0.55%	176	0.61%	126	0.43%	76	0.25%	196	0.62%
Not Offered Reemployment for Reasons other than Reduction	107	0.39%	104	0.36%	70	0.24%	81	0.27%	120	0.38%
Personal Reasons	83	0.30%	234	0.82%	209	0.72%	447	1.47%	860	2.70%
Professional Growth	148	0.54%	153	0.53%	113	0.39%	67	0.22%	111	0.35%
Retirement	369	1.34%	440	1.54%	356	1.22%	830	2.73%	675	2.12%
Staff Reduction / Unrequested Leave	158	0.57%	316	1.10%	116	0.40%	135	0.44%	156	0.49%
Unknown	226	0.82%	444	1.55%	1381	4.75%	574	1.89%	418	1.31%
Other	645	2.34%	62	0.22%	41	0.14%	10	0.03%	22	0.07%
Sum	2391	8.66%	2415	8.44%	2918	10.03%	2650	8.73%	3063	9.63%
Total Number of Teachers Employed	27620		28618		29098		30368		31796	

Percent of Total FTEs Projected to Retire by ECSU Region in Minnesota, 1998-2008

		1	3	4	5	6	7	9	10	11	Total
1	Arts	44.9%	46.5%	38.6%	26.9%	36.8%	30.4%	33.4%	34.9%	40.1%	38.0%
2	Communications	45.1%	51.7%	37.4%	40.9%	46.9%	33.9%	49.2%	58.6%	44.7%	45.0%
3	Elementary	37.2%	56.3%	35.8%	35.6%	37.0%	30.5%	38.6%	48.5%	40.3%	40.1%
4	Family Education	39.4%	42.1%	32.7%	49.4%	36.3%	22.6%	31.4%	33.7%	34.1%	34.5%
5	Health and P.E.	33.6%	33.2%	34.1%	44.3%	49.5%	31.8%	46.6%	47.1%	36.6%	38.3%
6	Home Economics	37.0%	30.6%	42.8%	38.0%	52.2%	32.3%	28.8%	33.1%	43.3%	39.2%
7	Industrial Arts	34.7%	40.1%	35.3%	35.5%	59.2%	51.9%	54.4%	50.6%	47.5%	47.2%
8	Language: ESL/Bi-Bi	23.4%	33.8%	13.7%	0.0%	16.6%	42.2%	2.9%	16.1%	27.7%	24.0%
9	Language: French	18.0%	22.9%	0.0%	19.7%	43.1%	9.7%	13.0%	9.6%	35.5%	29.9%
10	Language: Others	50.8%	52.3%	18.2%	35.1%	70.5%	47.9%	36.9%	75.8%	28.6%	39.7%
11	Language: Spanish	34.3%	21.9%	20.9%	16.0%	13.8%	19.4%	19.6%	35.4%	27.0%	24.9%
12	Mathematics	36.9%	50.0%	50.8%	35.3%	58.1%	35.3%	58.5%	52.7%	44.1%	45.8%
13	Middle-General	43.1%	66.9%	74.9%	50.4%	30.5%	25.1%	29.2%	34.8%	45.7%	43.7%
14	Music	32.4%	44.6%	34.4%	32.1%	35.1%	21.8%	35.1%	38.9%	35.5%	34.5%
15	Other Teachers	56.8%	46.1%	38.3%	58.2%	64.1%	51.9%	51.2%	48.0%	44.9%	49.2%
16	Pre-K and Kinder	32.0%	28.4%	22.7%	21.7%	28.0%	19.8%	37.9%	41.3%	34.7%	32.0%
17	Science: Chemistry	37.2%	46.7%	57.9%	99.7%	63.0%	51.6%	62.2%	45.4%	65.0%	59.9%
18	Science: Others	44.3%	53.2%	58.3%	51.6%	58.8%	39.1%	46.3%	48.2%	33.4%	41.8%
19	Science: Physics	56.8%	41.8%	76.1%	94.8%	71.4%	27.5%	36.5%	61.1%	52.3%	53.6%
20	Social Studies	49.9%	45.0%	42.3%	54.2%	57.4%	40.9%	47.1%	52.7%	51.0%	49.5%
21	Special Education	21.1%	31.7%	22.0%	28.4%	27.0%	15.5%	27.3%	25.4%	29.5%	26.7%
22	Vocational Education	44.0%	56.4%	33.7%	48.9%	45.4%	46.5%	29.5%	45.6%	37.2%	41.7%
	Total	36.7%	45.7%	35.7%	38.2%	41.0%	29.7%	39.4%	43.3%	38.1%	38.2%

Distribution of Total FTEs Projected to Retire by ECSU Region in Minnesota, 1998-2008

		1	3	4	5	6	7	9	10	11	Total
1	Arts	22	34	19	11	25	34	20	37	200	401
2	Communications	74	117	63	53	114	137	89	168	737	1552
3	Elementary	238	495	240	197	376	449	260	580	3305	6141
4	Family Education	61	115	41	62	86	65	41	84	658	1212
5	Health and P.E.	47	55	48	50	108	94	68	103	453	1028
6	Home Economics	13	13	14	9	26	23	11	19	104	231
7	Industrial Arts	18	28	13	11	37	52	29	41	162	392
8	Language: ESL/Bi-Bi	3	2	2	0	7	6	1	7	76	103
9	Language: French	1	3	0	1	4	1	0	1	46	57
10	Language: Others	4	5	2	4	11	13	4	21	42	106
11	Language: Spanish	9	11	7	4	7	11	8	22	92	170
12	Mathematics	51	98	69	39	119	107	88	128	531	1230
13	Middle-General	19	71	29	4	22	30	12	39	245	470
14	Music	36	62	42	28	61	50	44	81	322	727
15	Other Teachers	35	31	21	23	55	44	28	35	161	434
16	Pre-K and Kinder	21	37	14	14	29	28	30	47	303	523
17	Science: Chemistry	5	9	9	10	14	14	12	11	82	167
18	Science: Others	46	73	54	40	87	89	49	88	304	829
19	Science: Physics	4	5	5	4	9	3	3	7	36	77
20	Social Studies	66	84	55	57	119	123	68	119	639	1329
21	Special Education	84	170	90	90	158	141	104	171	1246	2254
22	Vocational Education	24	35	16	32	37	45	14	40	141	383
	Total	886	1555	861	745	1519	1578	989	1859	9829	19819

Distribution of Total Teaching FTEs by Assignment and ECSU Region in Minnesota, 1998-99

		1	3	4	5	6	7	9	10	11	Total
1	Arts	50.0	72.2	48.8	41.8	66.8	112.6	59.8	105.6	498.0	1055.5
2	Communications	165.3	225.9	169.3	129.7	242.9	402.7	180.7	287.2	1647.3	3450.9
3	Elementary	640.3	879.0	671.2	554.8	1015.4	1472.6	673.8	1194.8	8205.5	15307.2
4	Family Education	154.6	272.2	125.7	125.1	236.2	288.9	131.7	248.4	1926.9	3509.7
5	Health and P.E.	141.0	166.9	142.0	113.9	218.4	294.8	147.0	219.5	1239.2	2682.7
6	Home Economics	34.4	43.8	32.8	24.1	49.0	69.9	39.0	57.6	239.5	589.9
7	Industrial Arts	53.2	70.5	36.6	32.1	62.7	100.8	53.4	80.1	340.6	829.8
8	Language: ESL/Bi-Bi	12.2	6.0	13.9	2.0	41.9	14.5	21.3	46.3	272.8	430.9
9	Language: French	5.1	13.0	7.6	4.2	9.3	10.4	2.9	7.8	129.8	190.2
10	Language: Others	7.0	10.4	9.0	10.6	15.9	27.2	10.6	27.6	147.7	265.9
11	Language: Spanish	25.1	48.5	34.9	22.1	52.9	58.0	38.8	61.8	339.8	682.0
12	Mathematics	138.7	195.5	136.9	109.4	205.2	302.6	150.2	242.8	1205.4	2686.5
13	Middle-General	43.7	106.3	39.3	7.0	71.3	118.5	42.3	111.7	535.2	1075.4
14	Music	110.9	140.0	122.2	85.7	174.4	230.9	125.3	208.8	907.0	2105.1
15	Other Teachers	61.2	68.0	55.2	40.1	86.3	84.7	55.0	72.7	359.0	882.1
16	Pre-K and Kindler	67.0	129.8	62.6	66.3	102.6	144.1	78.4	114.0	872.7	1637.3
17	Science: Chemistry	13.3	19.1	15.9	10.5	22.8	27.1	18.6	25.2	126.2	278.7
18	Science: Others	102.7	137.0	92.2	77.3	148.1	228.2	106.2	182.4	911.1	1985.1
19	Science: Physics	6.7	12.0	7.2	4.6	12.8	12.4	7.6	11.2	69.7	144.2
20	Social Studies	132.1	186.3	130.8	105.5	206.6	301.8	143.3	225.4	1253.2	2684.9
21	Special Education	397.0	536.9	411.8	315.5	583.9	907.6	380.2	674.2	4222.4	8429.5
22	Vocational Education	55.2	62.2	46.4	65.6	80.7	97.4	46.3	87.0	379.1	919.9
	Total	2416.4	3401.3	2412.5	1947.9	3706.1	5307.3	2512.2	4291.9	25827.8	51823.2

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