
Maine Education at a Glance

**Educator Shortages in Maine's
Public Schools**

Recently, both at state and national levels, there has been a growing concern over the availability of qualified new teachers that would replace those leaving the profession because of retirement or other reasons. In Maine for 1998-99, 28.3 percent of full-time teachers are 50 years or older. Nationally, between the 1993-94 and 1994-95 school years, 68.8 percent of public school teachers over the age of 50 left teaching, retirement being the reason most reported.

In 1999, the Maine Education Policy Research Institute conducted a survey of the state's public school principals. Approximately 70% of Maine schools responded. One of the areas the Maine Public School Census Survey asked principals about was to indicate the supply of qualified educators who had applied for openings in their schools in the past three years. The scale was based on a continuum ranging from *considerable shortage*, *balanced supply and demand*, to *considerable surplus* of qualified candidates. The table on the following page reports the findings of the survey.

As noted in the table, most elementary school principals reported no shortages in qualified elementary teacher candidates, but slight or considerable shortages in other areas. The most commonly reported shortages were special education teachers, *guidance/counseling staff*, and librarians.

Middle school principals also reported slight or considerable shortages in a number of areas. For regular teaching staff, the most commonly reported shortages were in foreign language, science, and special education, followed by mathematics and visual and performing arts. For other professional staff, the greatest shortages were in technology specialists and special education directors.

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Educator Shortages in Maine Elementary, Middle, and High Schools

Percent of Principals that Reported Slight or Considerable Shortages

	Elementary School	Middle School	High School
Elementary Classroom Teachers	22%	-	-
Elementary Education Technicians	39%	-	-
English/ Language Arts Teacher	-	31%	37%
Mathematics Teacher	-	72%	89%
Science Teacher	-	78%	87%
Social Studies Teacher	-	30%	20%
Foreign Languages Teacher	-	94%	91%
Visual or Performing Arts Teacher	-	72%	69%
Health or Physical Education Teacher	-	40%	33%
Career Preparation Teacher	-	58%	48%
Special Education Teacher	76%	76%	82%
Special Education Directors	-	82%	84%
Guidance/Counseling Staff	69%	74%	74%
Librarians	62%	68%	76%
Technology Coordinators/ Specialists	-	85%	87%
Nurses	55%	55%	59%

Source: Maine Education Policy Research Institute, 1999.

In the case of high schools, most principals reported shortages in several areas. The most commonly reported shortages for regular teaching staff were in foreign language, mathematics, science, and special education. The greatest shortages for other professional staff were in technology specialists followed by special education directors.

A report published in 1998 by the American Association for Employment in Education (AAEE), reported that nationally, the greatest teaching shortages were in special education, mathematics, science (particularly the physical

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sciences), computer science, English as a Second Language, and foreign languages.

When AAEE looked at teacher supply and demand by region, they found that in the Northeast region, the teaching areas in which there were *considerable shortages* were bilingual education and science (physics). The teaching areas in which there were *some shortages* were foreign language, library science, mathematics, science (general), special education, and technology education. In the case of elementary schools, AAEE found that in the Northeast region there was *some surplus* in the field of elementary classroom teachers. With regards to special education shortages, the Council for Exceptional Children found that in 1997 about 50,000 special education positions either remained vacant or were newly filled by teachers who lacked full state certification.

Thus, these studies suggest that the supply of qualified candidates, as reported by Maine's principals, parallels other national and regional findings.

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- Technology specialist shortages appeared to be more critical in the Northeast, Western, and Central regions of the state, in comparison to the state average.
- Guidance counselor shortages appeared to be significant in the Western, Central, and South Central regions of the state.

Table 3

Educator Shortages in Maine's High Schools by Region
 Percent of Principals that Reported Slight or Considerable Shortages

Educator Group	Statewide	Southern Region	Northeast Region	Western Region	Central Region	South Central Region
English/ Language Arts Teacher	37%	0%	75%	51%	55%	17%
Mathematics Teacher	89%	80%	100%	88%	100%	83%
Science Teacher	87%	79%	100%	100%	100%	75%
Social Studies Teacher	20%	0%	54%	17%	38%	6%
Foreign Languages Teacher	91%	100%	91%	88%	100%	84%
Visual or Performing Arts Teacher	69%	45%	100%	100%	50%	64%
Health or Physical Education Teacher	33%	22%	55%	53%	33%	23%
Career Preparation Teacher	48%	20%	63%	50%	50%	50%
Special Education Teacher	82%	82%	91%	67%	100%	73%
Special Education Directors	84%	80%	100%	80%	100%	64%
Guidance Counselors	74%	46%	73%	100%	90%	81%
Librarians	76%	57%	86%	100%	83%	70%
Technology Coordinators/ Specialists	87%	77%	100%	100%	100%	77%
Nurses	59%	100%	23%	100%	100%	40%

Source: Maine Education Policy Research Institute, 1999.

In summary, the information from all three school levels indicate a shortage of qualified candidates in some areas all across the state. These areas include mathematics, science, foreign language, and special education.

State of Maine 99-00 Teacher Age and Subject

	<u># teachers employed*</u>	<u>age 50 or over**</u>	
Art	559	156	
Computer Technology	302	108	
English	1,993	734	
Foreign Languages	659	216	
Health/Phys Ed	797	156	
Mathematics	1,147	355	31 %
Music	569	125	
Science	1,125	327	29 %
Social Studies	1,018	319	
Special Education	2,248	510	
All other teachers	7,885	2,335	
TOTALS:	18,302	5,341	29 %

* Counted in the subject where majority of time spent.

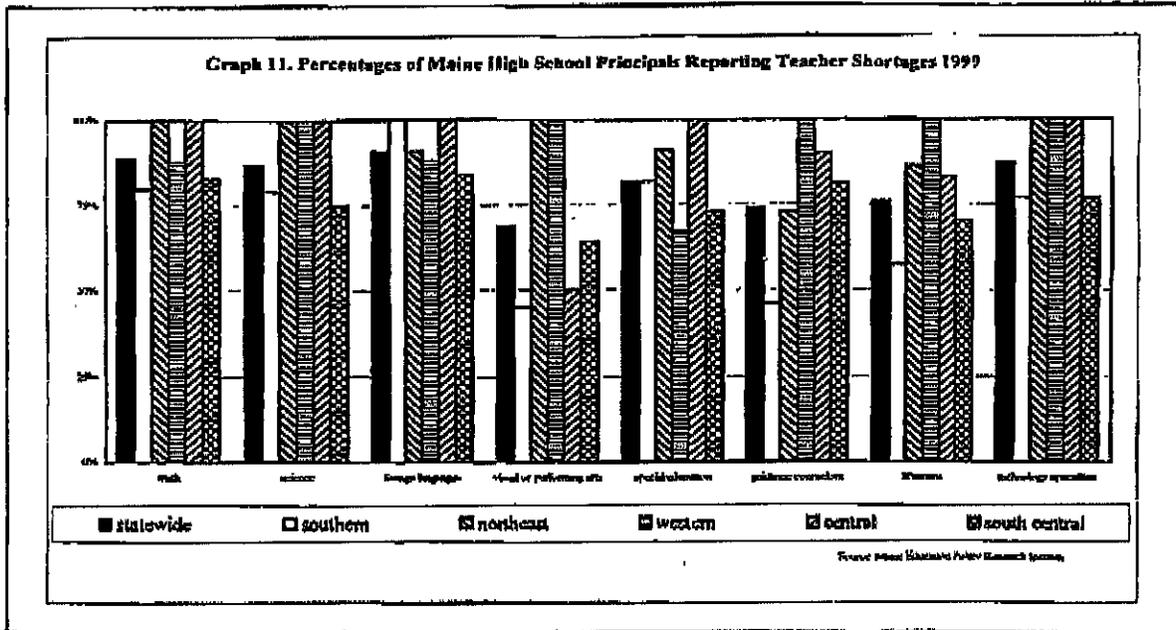
State of Maine 99-00
 Teacher Certification Status by Subject

	# teachers employed*	Certification Status			long-term sub	meets certification requirements		TOTAL
		missing some certification requirements				provisional	professional*	
		walters	conditional	transitional				
Art	601	1	18	14	0.5	149	617	799.5
Computer Technology	302	10	n/a	27	0	33	1146	1216
English	2309	3	40	24	4 7/1	441	3497	4009
Foreign Languages	692	20	60	42	4 1/2	125 / 36	1139	1390
Health/Phys Ed	840	12	15	44	1 7/8	227	2118	2417
Mathematics	1435	13	38	34	4 8/5	177 / 22	1572	1838
Music	573	3.5	25	4	2 2/8	78	642	754.5
Science	1311	12	63	46	2 1/2	365 / 40	2759	3247
Social Studies	1351	3.5	27	18	0 4/8	492 / 50	4673	5213.5
Special Education	2193	22	174	258	11 4/5	425 / 60	6191	7081
All other teachers	8144	28.5	316	131	13	2825	5773	9086.5
TOTALS:	19751	128.5	776	642	41.5	5337	30127	37052

22 36 18 37 99 40

* Individuals teaching more than one subject are counted more than once.

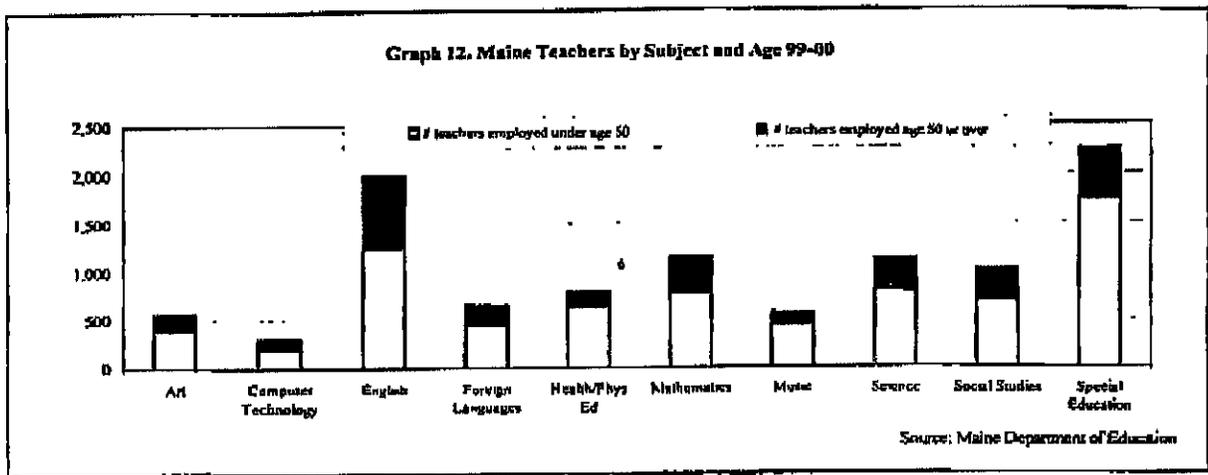
At least 74% of principals reported that there is no shortage of elementary classroom teachers, except in the northeast region where just 57% reported no shortage. A shortage of special education teachers was reported at all levels and in all regions. Middle and high school foreign language teachers, followed by math, science and visual or performing arts teachers, then guidance counselors and librarians at all levels are also in short supply but with wide variation across the state. (MEPRI, July 2000)



One indicator of shortage is the percentage of teachers with no major in the subject they teach. The National Alliance of Business (Databook, p8) reports that in 93-94 28% of math teachers nationally were not math majors, compared to 32% of math teachers in Maine. In the same year, 26% of science teachers nationally were not science majors, compared to 33% in Maine. This contrasts with English teachers, where the number teaching without a major was 22% nationally and 19% in Maine.

Even in subjects that have not had shortages in the past, the age of the teaching force may result in shortages in the near future. Almost 39% of English teachers are age 50 or over, as are 31% of social studies teachers (Graph 12). The subjects with the lowest percentages of teachers over 50 are Health/Physical Education, Music and Special Education. While the average age of special education teachers is lower than other shortage subject areas, there are still more special education teachers over the age of 50 than in the other shortage areas. This is compounded by factors such as the intensity of the needs of this student population, changing federal and state requirements, increasing legal issues, and high demands for paperwork.

As Maine moves toward implementation of *Learning Results*, shortages in two of the three content areas where implementation is currently postponed could become critical. There will be a sharp increase in the demand for teachers in the visual and performing arts, and as many as 300 new teaching positions will be added in modern and classical languages.



Most Maine superintendents have experienced shortages when filling principal and special education director positions. In recent years, it is not unusual to have fewer than five candidates for a high school principalship. The Maine School Management Association (1998) compiled data on 100 superintendent vacancies from 1995 through 1998. Most candidate pools had fewer than 20 applicants, with the range from a high of 30 to a low of 5. Given the age of superintendents and the fact that the University study (Maine School Management Association, 1998) only yielded a net increase of 3 potential superintendents, this is likely to be the most severe shortage of all positions discussed.

Compensation

Teachers are paid based on a salary schedule, with both the structure of the salary schedule and the amount of compensation determined through negotiations in each local school unit. In 99-00 there were 188 different agreements, 92% of them following traditional steps (Appendix F). Typically this means that for each year of teaching experience there is an increase in pay up to a specified number of years of experience (the average is between 17 and 18 steps). There are also columns (known as lanes) in the agreements for increasing levels of education. Maine statute established the minimum starting salary for certified teachers at \$15,500, effective in 1987 (Title 20-A MRSA §13404). In 99-00, fourteen years later, most local negotiated agreements began at more than \$20,000, with the 99-00 state average at \$21,939. For the 15 agreements providing a PhD lane, the top pay at that level averaged \$46,933. In addition, all 188 of current agreements provided health insurance. The average district cost of this was \$5712 for teachers requiring family coverage. Less than half of the 188 agreements provided dental or life insurance.

Given the experience levels of Maine teachers, the actual average salary is far above the base pay. This varies statewide, with the lowest county average in Washington County at \$28,882 and the highest in Cumberland County at \$36,741 (Graph 13). Behind these average figures are great variations across the state: there is one district where the top of the pay scale is less than the bottom in another district.

The private sector responds to labor shortages by paying more to fill certain positions. This is not the case in public schools systems. The teachers' union in Maine will support

The Paul Douglas Teacher Scholarship Program provides forgiveness of loans in shortage subject areas. The Department of Education annually determines which positions qualify, considering the number of vacancies, the number of teachers currently with less than full certification, and the percentage these reflect of total teaching positions in these subjects. For 00-01 teachers of special education including speech, French, Spanish, chemistry and physics, mathematics, and computer technology all qualify for loan forgiveness under this program.

Administrator salaries appear to be more on a par with other occupations. However, controlling for days worked, Maine principals are not paid much more than teachers, even though the average principal has more education and experience than the average teacher. Salary is the leading reason why teachers holding principal certification choose not to apply for administrative positions; this is followed closely by the time demands of the position and the increasing intensity of legal issues (Downs, Oct 1999, p2). The labor market determines salaries of superintendents: what salary and benefit package will be needed to attract the best superintendent for a school system. Once employed, the superintendent's salary is determined locally based on Board perceptions of the superintendent's performance. The compensation of principals may be determined in a manner similar to superintendents, or may involve a salary schedule, depending on the size of the school system and local personnel practices.

Standards

Certification is the minimum licensure, under Maine law, for individuals to teach in Maine. When there is a shortage of fully certified candidates for a vacancy, school districts can employ individuals without full certification, subject to certain conditions. Thus the frequency of employment without full certification is one indicator of shortage. As can be seen in Graph 14, special education, foreign languages and sciences have the highest percentages of teachers employed without full certification.

