An examination of data trends
in educational personnel
for Wisconsin public schools

S & D Supply & Demand

2001



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Executive Summary

- The number of program completers from Wisconsin teacher training institutions remained relatively steady over the past five years. In 1999-2000, there was a slight increase in program completers in elementary education, a slight decrease in secondary fields, and a 14% decrease in special education.
- School districts reports indicated the number of new teacher hirings has increased by 50% from 1996-1997 to 2000-2001
- School district ratings of supply indicated a slight shortage of teachers overall, with greater shortages in these licensure / subject areas: emotional behavioral disability, technology education, visual impairment, cognitive disability, chemistry, deaf/hearing impairment, family / consumer education, and physics.
Licensure / subject areas with relatively high supply ratings were early childhood / kindergarten, physical education, social studies, and elementary education.
- Licensure / subject areas with lowest ratio of applicants to vacancies as reported by school districts included the following: visual impairment, physical therapy / occupational therapy, emotional behavioral disability, and deaf/hearing impairment. Seven of the 12 lowest ratios were related to special education.
- School districts reported use of a variety of methods to recruit, hire, and retain personnel in critical shortage areas. Methods used included media advertising, professional contacts, monetary incentives, job benefits, and non-traditional pools of applicants.

- In the next five years, school districts anticipate continued challenges in filling positions in special education, technology education, mathematics, and science.
- The number of emergency teaching licenses issued by the Department of Public Instruction increased by 20% from 1999-2000 to 2000-2001. Approximately 92% of responding school districts reportedly hired 5 or fewer emergency licensees to fill 2000-2001 openings. Districts reported one-third of all 2000-2001 vacancies filled by emergency licensees were in special education.
- A survey of Wisconsin teacher training program completers showed these results: 63% teaching in Wisconsin public schools, 5% teaching in Wisconsin private schools, 14% teaching out-of-state, 9% not teaching, 5% teaching part-time teachers, 7% substitute teaching.
- Deans or equivalents at all 33 teacher training institutions in Wisconsin were surveyed of which 23 responded (70%). Respondents identified issues and problems related to supply and demand data collection, analysis, and dissemination.
- Teacher training institutions reported resource limitations, bureaucratic hurdles, time demands, and students' resistance were impediments that limit or prevent changes to programs when shortages or oversupplies are identified in licensure/subject areas. Several other impediments also were mentioned.
- Teacher training institutions reported 3 approaches to address fluid supply and demand conditions. The 3 approaches that institutions reported included: (1) development of new programs or modifications to existing programs, (2) manipulation of program enrollment caps, and (3) collaboration with other stakeholders such as school districts, state agencies, and other institutions of higher learning.

Introduction

There were 47 million students in U.S. elementary and secondary public schools in the 2000-2001 school year. Wisconsin's 880,000 students were nearly 2% of that total. An additional 146,000 students were in Wisconsin private schools. Nationally, there were 2.8 million public school teachers, including 60,000 in Wisconsin.

This is the 23rd annual report of Supply and Demand of Educational Personnel in Wisconsin Public Schools. The report serves two functions. One is compliance with the reporting requirements of the federal Individuals with Disabilities Education Act. The second is to provide information for prospective job-seekers, educational administrators, institutions of higher learning and educational policymakers in Wisconsin.

This report is organized into six sections: (1) Wisconsin Teacher Supply, (2) School District Survey Data, (3) Emergency License Data, (4) Program Completer Survey, (5) Teacher Training Institution Survey, and (6) Employment Outlook In Selected License/Subject Areas. The first section, Wisconsin Teacher Supply, includes an examination of teacher supply based on analysis of program completer data submitted by Wisconsin teacher training programs and teacher attrition rates as submitted by Wisconsin school districts. The second section, School District Survey Data, includes analyses of supply and demand data collected through a survey of Wisconsin school districts. The third section, Emergency License Data, includes information pertaining to the number of emergency licensees hired and emergency licenses issued from 1990-1991 to 2000-2001 as reported by Wisconsin school districts and Wisconsin Department of Public Instruction (DPI). The fourth section, Program Completer Survey, reports job status of recent graduates of Wisconsin teacher training programs. The fifth section, Survey of Teacher Training Institutions, includes summaries of responses to a survey

sent to deans (or equivalents) of Wisconsin teacher training programs. The sixth section provides employment outlooks in selected licensure / subject areas. These outlooks are based on ratings of supply and demand data reported in this study.

This report and additional information related to Supply and Demand of Educational Personnel for Wisconsin Public Schools can be accessed via website. The website is:

<http://www.dpi.state.wi.us/dpi/dlsis/tel/supdem01.html>.

Wisconsin Teacher Supply

Wisconsin's 13 public and 20 private teacher training institutions annually report the total number of individuals that complete programs across educational licensure/subject areas to DPI. An individual who completed an education degree or program at a Wisconsin college or university between Sept. 1, 1999 and August 31, 2000 and is eligible to apply for a license to teach in a particular subject area and at specific grade levels is considered a program completer. Tables 1 and 2 include the total number of program completers across licensure/subject areas for each teacher training institution in Wisconsin. Tables 3 and 4 include the number of program completers who held previous licenses. Whereas, Tables 5 and 6 include the number who held no previous licenses.

Table 1

University of Wisconsin System Program Completers, Total

Assignment	UW - EauClaire	UW - Green Bay	UW - LaCrosse	UW - Madison	UW - Milwaukee	UW - Oshkosh	UW - Parkside	UW - Platteville	UW - River Falls	UW - Stevens Point	UW - Stout	UW - Superior	UW - Whitewater	Totals UW	Grand Total
Elementary	106	59	114	134	221	125	44	67	109	116	105	55	121	1376	1911
Agriculture				3				9	17					29	29
Family & Consumer Ed.				6						10	26			42	45
Technology Education								2			61			63	63
Business Education											12		33	45	58
Marketing Education											24	3	3	30	30
Eng./Spch./Thea./Jour.	22	14	19	5	13	15	5	4	11	16		8	19	151	218
Reading	10		13	11	5	37		9	10	6		8	7	116	204
Foreign Language	11	4	9	7	8	9	1	3	3	9			7	71	107
ESL	1	3	1	1	3	5				3				17	25
Math	14	2	7	2	5	4	2	9	10	9		3	9	76	135
Driver Education											17		3	20	20
Music	19	2	14	13	7	6	2	8	6	8		2	12	99	137
Physical Education	9		67	9	3	17		13	13	22		9	19	181	208
Art Education	6	4	5	19	17	5	2		2		22	7	10	99	125
Science	6	6	7	2	21	8	2	8	10	17		2	16	105	146
Social Studies	23	12	17	7	13	29	5	7	19	21		12	20	185	274
Cog./Lrng./Emot. Dis.	66		13	37	29	113			2	40	14	4	46	364	447
Deaf/Hard of Hearing					1									1	1
Early Childhood Spec. Ed.	16			1	7	17							23	64	82
Speech/Language Path.	16			31	20	1			12	18			7	105	118
Library Media	3		3	11	17	5						1	5	45	45
Health Education			7						1		1		7	16	17
Superintendent				9								6		15	16
School Business Mgr.												3	5	8	8
Principal				27	19							19		65	255
Director of Instruction				2	5							6		13	27
Director of Special Ed.				3	6							3		12	12
School Social Worker				22	26									48	48
School Psychologist	9		9	4	12				1		16	4	18	73	77
School Counselor				5	65	17		33	16		40	12	12	200	205
Totals	337	106	305	371	523	413	63	172	242	295	338	167	402	3734	5093

Source: UW System reports to DPI

Table 2

Private College Program Completers, Total

Assignment	Alverno College	Beloit College	Cardinal Stritch	Carroll College	Carthage College	Concordia University	Edgewood College	Lakeland College	Lawrence	Maranatha College	Marion College	Marquette University	Mount Mary College	Mount Senario College	Northland College	Ripon College	Silver Lake College	St. Norbert College	Yiterbo	Wisconsin Lutheran	Totals Private
Elementary	49	5	53	47	22	34	21	56		10	38	41	13	12	15	6	20	47	22	24	535
Agriculture																					
Family & Consumer Ed.													3								3
Technology Education																					
Business Education						4	2	1			3		3								13
Marketing Education																					
Eng./Spch./Thea./Jour.	4	3	3	5	2	2	6	3	5	2	3	16	1	1	1	1	3	5	1		67
Reading			40	1	11	1											1		34		88
Foreign Language		2	5	2	3		1	1	5		3	7	2			2		2	1		36
ESL		1	4					3													8
Math	2		33	3	2	4		2	2	5	1	3		1				1			59
Driver Education																					
Music	1			2	4			3	7	1	2				3		5	6	4		38
Physical Education			1	7	5	7				2						5					27
Art Education	8		1	2			2		4		3		1	1				1	3		26
Science	1		3	5	2	2	5	1	3		1	3		1	3	3	1	4	2	1	41
Social Studies	8	1	5	7	7	9	2	5	8	4	4	10		2	2	2	3	3	4	3	89
Cog./Lrng./Emot. Dis.			37		22		16										8				83
Deaf/Hard of Hearing																					
Early Childhood Spec. Ed.			5				6										2		5		18
Speech/Language Path.												13									13
Library Media																					
Health Education				1																	1
Superintendent												1									1
School Business Mgr.																					
Principal			111			4	11				63						1				190
Director of Instruction	4		1				2				6	1									14
Director of Special Ed.																					
School Social Worker																					
School Psychologist												4									4
School Counselor												5									5
Totals	77	12	302	82	80	67	74	75	34	24	127	104	23	18	24	19	44	69	76	28	1359

Source: Private college reports to DPI

Table 3

University of Wisconsin System Program Completers With Previous Certification

Assignment	UW - EauClaire	UW - Green Bay	UW - LaCrosse	UW - Madison	UW - Milwaukee	UW - Oshkosh	UW - Parkside	UW - Platteville	UW - River Falls	UW - Stevens Point	UW - Stout	UW - Superior	UW - Whitewater	Totals UW	Grand Total
Elementary	1	3	4		12	1	1	4		5	6		7	44	69
Agriculture															
Family & Consumer Ed.															1
Technology Education								1			3			4	4
Business Education											12		2	14	17
Marketing Education													1	1	1
Eng./Spch./Thea./Jour.				2	1	1								4	4
Reading	10		13	9	5	37		9	9	6		2	7	107	195
Foreign Language			1		1	1		2					3	8	10
ESL	1	3	1		1	3				3				12	17
Math					1								1	2	35
Driver Education											17		3	20	20
Music															2
Physical Education	1		1							6			2	10	12
Art Education	1												1	2	3
Science					1				3					4	4
Social Studies	1			1		1		1		1			1	6	13
Cog./Lrng./Emot. Dis.	13		13	1	13	42			2	13			7	104	144
Deaf/Hard of Hearing															
Early Childhood Spec. Ed.					1	6							2	9	18
Speech/Language Path.				1	1									2	2
Library Media	3		3	2	14	5							3	30	30
Health Education									1		1		3	5	6
Superintendent												5		5	6
School Business Mgr.												1	2	3	
Principal					19							11		30	220
Director of Instruction					5							1		6	16
Director of Special Ed.					6									6	6
School Social Worker					3									3	3
School Psychologist	2				4						7	1	4	18	18
School Counselor				1	10	12		5	5		18	1	9	61	61
Totals	33	6	36	17	98	109	1	22	20	34	64	22	58	520	947

Source: UW System reports to DPI

Table 4

Private College Program Completers With Previous Certification

Assignment	Alverno College	Beloit College	Cardinal Stritch	Carroll College	Carthage College	Concordia University	Edgewood College	Lakeland College	Lawrence	Maranatha College	Marion College	Marquette University	Mount Mary College	Mount Senario College	Northland	Ripon College	Silver Lake College	St Norbert	Viterbo	Wisconsin Lutheran	Totals Private
Elementary	1		5	1			2			3	2			5		1	3			2	25
Agriculture																					
Family & Consumer Ed.													1								1
Technology Education																					
Business Education											1		2								3
Marketing Education																					
Eng./Spch./Thea./Jour.				1				1				1									3
Reading			4	0	1	1	1										1		3	4	8
Foreign Language							1				1										2
ESL		1	2					2													5
Math	1		3	1		1															3
Driver Education																					
Music																	2				2
Physical Education			1		1																2
Art Education				1																	1
Science			1				1	1						1							4
Social Studies			2	1					1	1		1					1				7
Cog./Lrng./Emot. Dis.			3	2		3	1										4				4
Deaf/Hard of Hearing																					
Early Childhood Spec. Ed.																	2		7		9
Speech/Language Path.																					
Library Media																					
Health Education				1																	1
Superintendent												1									1
School Business Mgr.																					
Principal			1	1		4	1	1			6	3					1				19
Director of Instruction			1				2				6	1									10
Director of Special Ed.																					
School Social Worker																					
School Psychologist																					
School Counselor																					
Totals	2	1	22	6	1	6	5	18	4	1	4	7	3	4	3	6		1	1	4	4

Source: Private college reports to DPI

Table 5

University of Wisconsin System Program Completers Without Previous Certification

Assignment	UW - EauClaire	UW - Green Bay	UW - LaCrosse	UW - Madison	UW - Milwaukee	UW - Oshkosh	Uw - Parksides	UW - Platteville	UW - River Falls	UW - Stevens Point	UW - Stout	UW - Superior	UW - Whitewater	Totals UW	Grand Total
Elementary	105	56	110	134	209	124	43	63	109	111	99	55	114	1332	1842
Agriculture				3				9	17					29	29
Family & Consumer Ed.				6						10	26			42	44
Technology Education								1			58			59	59
Business Education													31	31	41
Marketing Education											24	3	2	29	29
Eng./Spch./Thea./Jour.	22	14	19	3	12	14	5	4	11	16		8	19	147	214
Reading				2					1			6		9	9
Foreign Language	11	4	8	7	7	8	1	1	3	9			4	63	97
ESL				1	2	2								5	8
Math	14	2	7	2	4	4	2	9	10	9		3	8	74	100
Driver Education															
Music	19	2	14	13	7	6	2	8	6	8		2	12	99	135
Physical Education	8		66	9	3	17		13	13	16		9	17	171	196
Art Education	5	4	5	19	17	5	2		2		22	7	9	97	122
Science	6	6	7	2	20	8	2	8	7	17		2	16	101	142
Social Studies	22	12	17	6	13	28	5	6	19	20		12	19	179	261
Cog./Lrng./Emot. Dis.	53			36	16	71				27	14	4	39	260	303
Deaf/Hard of Hearing					1									1	1
Early Childhood Spec. Ed.	16			1	6	11							21	55	64
Speech/Language Path.	16			30	19	1			12	18			7	103	116
Library Media				9	3							1	2	15	15
Health Education			7										4	11	11
Superintendent				9								1		10	10
School Business Mgr.												2	3	5	8
Principal				27								8		35	35
Director of Instruction				2								5		7	11
Director of Special Ed.				3								3		6	6
School Social Worker				22	23									45	45
School Psychologist	7		9	4	8				1		9	3	14	55	59
School Counselor				4	55	5		28	11		22	11	3	139	144
Totals	304	100	269	354	425	304	62	150	222	261	274	145	344	3214	4146

Source: UW System reports to DPI

Table 6

Private College Program Completers Without Previous Certification

Assignment	Alverno College	Beloit College	Cardinal Stritch	Carroll College	Carthage College	Concordia University	Edgewood College	Lakeland College	Lawrence	Maranatha College	Marion College	Marquette University	Mount Mary College	Mount Senario College	Northland College	Ripon College	Silver Lake College	St. Norbert College	Yiterbo	Wisconsin Lutheran	Totals Private
Elementary	48	5	48	46	22	34	19	56		7	36	41	13	7	15	5	17	47	22	22	510
Agriculture																					
Family & Consumer Ed.													2								2
Technology Education																					
Business Education						4	2	1			2		1								10
Marketing Education																					
Eng./Spch./Thea./Jour.	4	3	3	4	2	2	6	2	5	2	3	15	1	1	1	1	3	5	1		64
Reading																					
Foreign Language		2	5	2	3			1	5		2	7	2			2		2	1		34
ESL			2					1													3
Math	1		2	3	1	4		2	2	5	1	3		1				1			26
Driver Education																					
Music	1			2	4			3	7	1	2				3		3	6	4		36
Physical Education				7	4	7				2					5						25
Art Education	8		1	1			2		4		3		1	1				1	3		25
Science	1		2	5	2	2	4		3		1	3			3	3	1	4	2	1	37
Social Studies	8	1	3	6	7	9	2	5	7	3	4	9		2	2	2	2	3	4	3	82
Cog./Lrng./Emot. Dis.			5		19		15										4				43
Deaf/Hard of Hearing																					
Early Childhood Spec. Ed.			5				6												- 2		9
Speech/Language Path.												13									13
Library Media																					
Health Education																					
Superintendent																					
School Business Mgr.																					
Principal																					
Director of Instruction	4																				4
Director of Special Ed.																					
School Social Worker																					
School Psychologist												4									4
School Counselor												5									5
Totals	75	11	76	76	64	62	56	71	33	20	54	100	20	12	24	18	30	69	35	26	932

Source: Private college reports to DPI

The number of program completers has remained relatively constant over the past five years. There were 5,093 program completers in 1999-2000, 5,087 in 1998-1999, and 5,001 in 1995-96. The number of program completers reported by private colleges increased 15%, from 1,182 in 1998-1999 to 1,359 in 1999-2000. Cardinal Stritch accounted for a substantial portion of this increase, in that, the number of program completers from this institution increased from 192 to 302. University of Wisconsin System program completers decreased by 4.4%, from 3,905 in 1998-1999 to 3,734 in 1999-2000. UW La Crosse showed the greatest decrease, with program completers dropping from 585 to 371.

There are several limitations in the use of program completers as a single measure of teacher supply. First, an individual who completes a program may or may not apply for a teaching license. Second, an individual may complete one or more programs and be eligible for a license in each area. In these cases, teacher training institutions report the individual as one program completer even though the individual is eligible for and may obtain two or more licenses. This is done to minimize double-counting individuals. Institutions normally report these individuals in the category in which they are most likely to find employment; therefore, there is a degree of judgment in how program completer totals are reported. For example, a student may complete a dual program in elementary and special education and would therefore be eligible to apply for a license in two areas, but would only be listed as a special education or elementary education program completer. Similarly, minor certifications are not included in these data. For instance, a physical education major with a health minor could obtain licenses in both areas but is counted only as a program completer in physical education. Third, these data do not include individuals who complete programs in out-of-state institutions, nor those who completed programs in previous

years and did not enter the teaching field. Fourth, institutions clearly make mistakes in reporting data. Initial reports from institutions showed people completing programs in fields including reading specialist and school principal without a previous certification, despite the fact that a previous certification is required for those licenses. These data were revised to reflect the fact that a previous certification was required in these fields.

It should be noted that DPI revised the 1998-1999 program completer totals due to discrepancies in reported data. Because of that, the revised figures cited here do not match the figures used in last year's supply and demand report.

Although use of program completer data as a measure of teacher supply has limitations, analysis of these data does provide an opportunity to identify general trends. Moreover, the use of data from multiple sources such as those included in this report may offer a more complete picture of supply and demand of educational personnel.

The number of program completers by major categories from 1980-1981 to 1999-2000 are shown in Table 7 and Figure 1. Major categories include: (1) elementary education, (2) secondary and specialized fields, and (3) special education. From 1998-1999 to 1999-2000 there was an increase of approximately 70 (3.8%) program completers in elementary education, while the number in secondary fields dropped by 88 (4.5%), and the total in special education decreased by 106 (14.1%). These figures are not encouraging, as elementary education has traditionally been an area of relative oversupply and special education an area of undersupply. The number of special education program completers decreased more than 200 in the last two years, a 25% decrease. The increase in program completers in elementary education is modest and, in part, may be attributed to a University of Wisconsin Milwaukee program designed to address severe shortages in that metropolitan area.

The number of program completers decreased in several licensure/subject areas that have had chronic shortages. Those included agriculture, technology education, foreign language, science, English as a second language, library media, cognitive/learning/emotional behavioral disability, and director of special education. In contrast, increases occurred in other areas of undersupply such as business education and marketing education. Elementary education and physical education, which historically have had an ample supply of teachers, had increases in the number of program completers.

Table 7

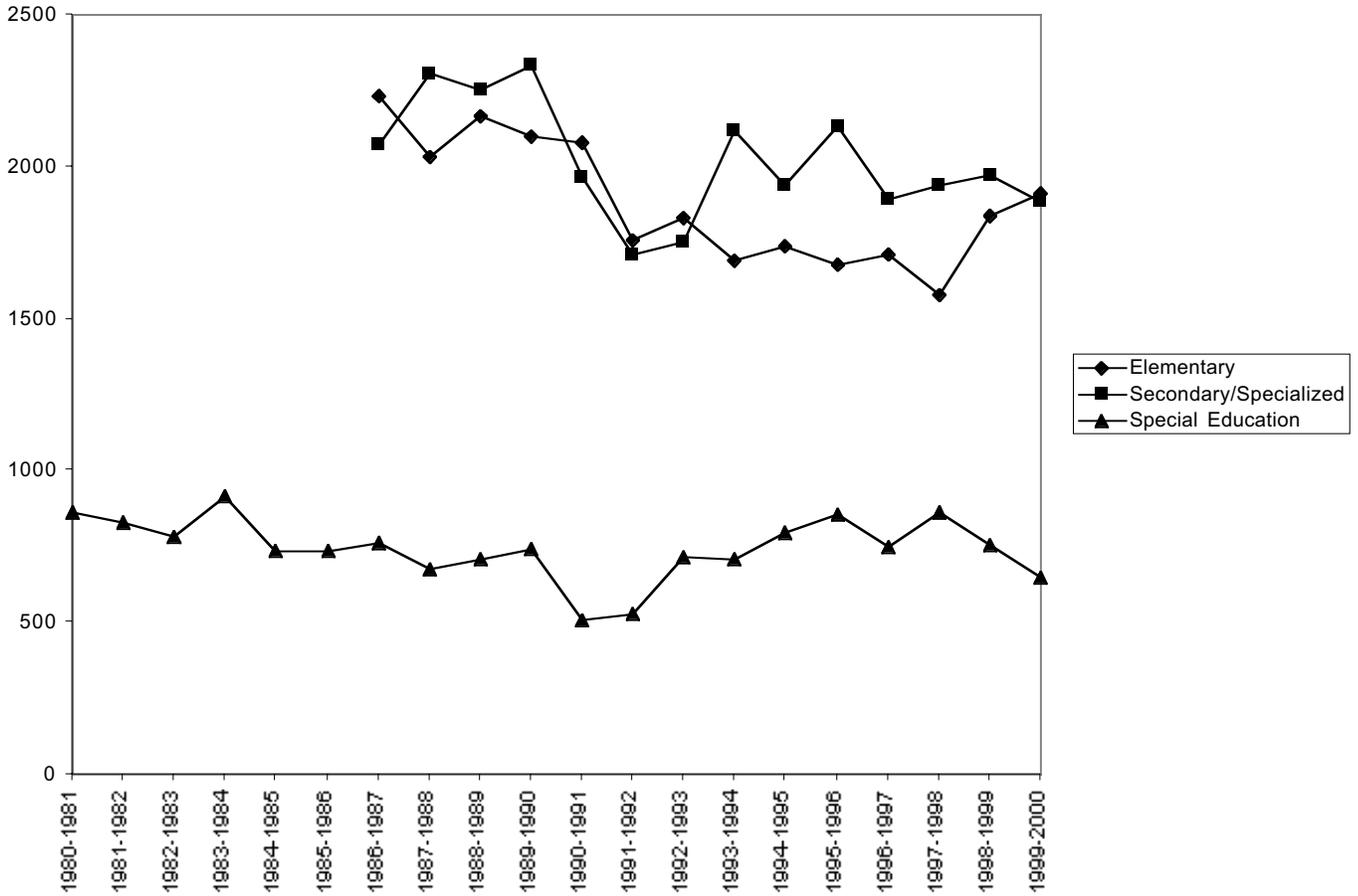
Total Program Completers by Major Categoriesfrom 1980-1981 to 1998-1999

	Elementary	Secondary/ Specialized	Special Education
1980-1981			861
1981-1982			826
1982-1983			780
1983-1984			919
1984-1985			738
1985-1986			733
1986-1987	2234	2070	765
1987-1988	2034	2308	678
1988-1989	2166	2250	707
1989-1990	2101	2333	742
1990-1991	2076	1966	505
1991-1992	1760	1709	530
1992-1993	1829	1754	718
1993-1994	1688	2121	709
1994-1995	1738	1939	793
1995-1996	1680	2134	857
1996-1997	1709	1891	752
1997-1998	1575	1938	863
1998-1999	1841	1974	754
1999-2000	1911	1886	648

Source: Figures UW System and private college officials reported to DPI

Figure 1

Total Program Completers by Major Certification Categories



Source: Figures UW System and private college officials reported to DPI

Attrition rates, another factor that affects teacher supply, are shown in Tables 8, 9, and 10 and Figure 2. School districts annually report this information to DPI. Field attrition data include transfers into other teaching fields and exits from teaching. From 1990-1991 to 1999-2000 attrition rates in special education were greater than in elementary education. Field attrition declined in both general and special education from 1998-99 to 1999-2000. Special education showed an especially sharp decline from 11.43% to 7.87%, as a result, attrition rates of general (7.3%) and special education (7.87%) were nearly identical.

Table 8

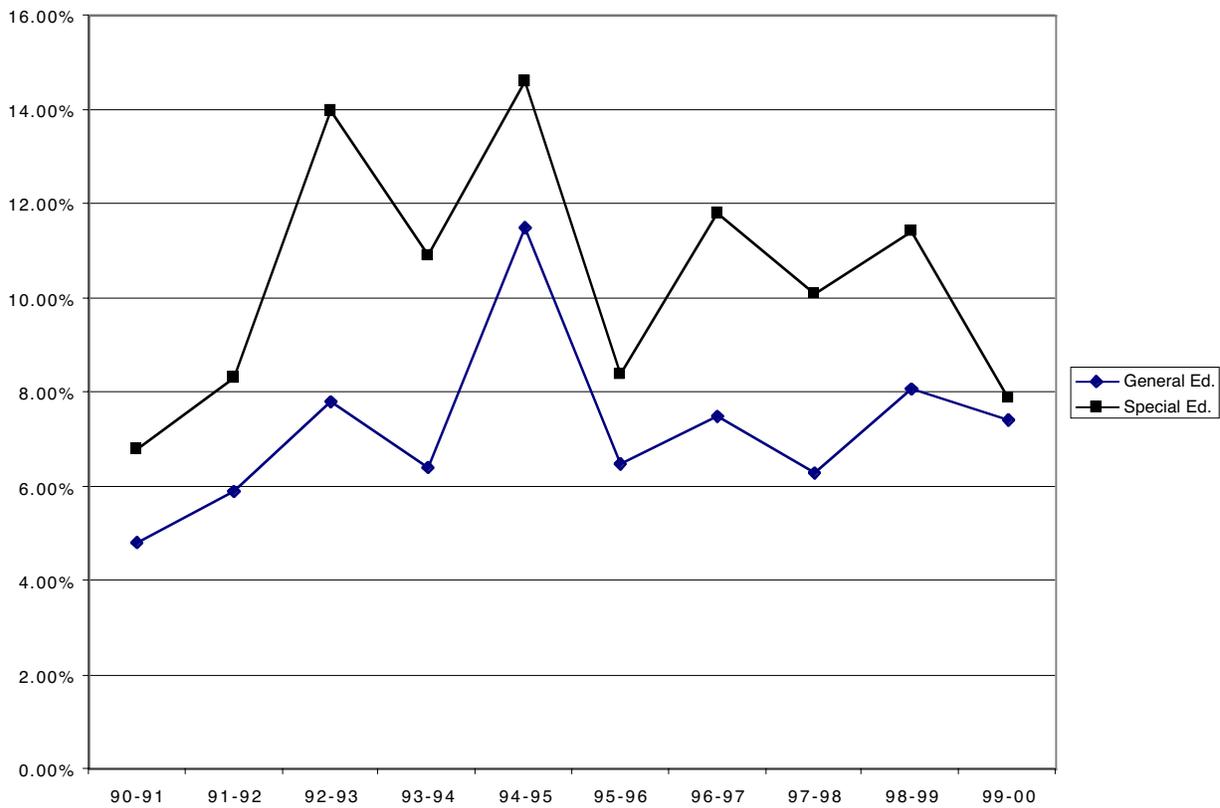
Field Attrition Rates 1990-2000

	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00
General Ed.	4.80%	5.90%	7.80%	6.40%	11.50%	6.50%	7.50%	6.30%	8.06%	7.43%
Special Ed.	6.80%	8.30%	14%	10.90%	14.60%	8.40%	11.80%	10.10%	11.43%	7.87%

Source: Figures school officials reported to DPI in database format

Figure 2

Chart of Field Attrition Rates, 1990-2000



Source: Figures school officials reported to DPI in database format

Exit attrition includes only individuals leaving teaching positions in Wisconsin. Exit attrition declined in special education from 8.2% in 1998-99 to 7.87% in 1999-2000. Exit attrition increased in general education from 7.18% in 1998-1999 to 8.19% in 1999-2000. There were 296 transfers from special to general education compared to 150 transfers from general to special education. Thus, there was a net loss of 146 special education teachers due to transfers between fields.

Table 9

State Exit Attrition Rates and Field Transfers of Wisconsin Teachers for 1998-1999

Field	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00
General Ed.	4.80%	5.90%	7.80%	6.40%	11.50%	6.50%	7.50%	6.30%	8.06%	7.43%
Special Ed.	6.80%	8.30%	14%	10.90%	14.60%	8.40%	11.80%	10.10%	11.43%	7.87%

Source: Figures school officials reported to DPI in database format

Table 10

Education Attrition for 1999-2000

General Education	State Exit Attrition	Transfers to Special Ed.	Transfers Within General Ed.
Elementary	7.15%	103	283
Secondary	8.97%	47	379
Total General	8.19%	150	662

Special Education	State Exit Attrition	Transfers to General Ed.	Transfers Within Special Ed.
Early Childhood Sp. Ed	5.87%	64	15
Cog., Learn., Emot. Dis.	8.09%	232	12
Total Special Ed.	7.87%	296	27

Source: Figures school officials reported to DPI in database format

Another indicator of teacher supply is the source of newly hired educators data. These data, shown in Table 11, come from reports school districts submit yearly to DPI in a coded database format. The database, including all new hires in the state and descriptions of positions they filled, is cross-referenced with the DPI license database. Data from this source indicate that 42% of those hired for new positions were Wisconsin graduates without previous teaching experience, 39% were experienced Wisconsin educators relocating, 11% were out-of-state educators without previous experience, 7% were experienced Wisconsin educators returning to teaching, and 1% were experienced out-of-state educators hired in Wisconsin.

Table 11

Sources of Newly Hired Educators by Licensure/Subject Area

Assignment	Wisconsin without experience		Wisconsin Experienced Returning		Wisconsin Experienced Relocating		Out-of-State Without Experience		Out-of-State Experienced Returning		Total Count
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	
Elementary	477	48%	44	4%	352	36%	105	11%	6	1%	984
Agriculture	6	33%	0	0%	8	44%	4	22%	0	0%	18
Family/Consumer Ed.	20	50%	4	10%	13	32%	3	8%	0	0%	40
Tech Ed.	33	55%	0	0%	25	42%	2	3%	0	0%	60
Business Ed.	17	34%	7	14%	22	44%	4	8%	0	0%	50
English	83	45%	4	2%	71	38%	26	14%	2	1%	186
Reading	10	21%	5	11%	24	51%	8	17%	0	0%	47
Foreign Language	44	49%	4	4%	36	40%	6	7%	0	0%	90
ESL	18	41%	1	2%	15	34%	10	23%	0	0%	44
Math	60	39%	0	0%	67	44%	22	14%	4	3%	153
Music	52	48%	2	2%	40	37%	12	11%	3	3%	109
Physical Ed	40	47%	2	2%	36	42%	6	7%	1	1%	85
Art	31	54%	0	0%	23	40%	2	4%	1	2%	57
Science	71	48%	8	5%	51	34%	18	12%	0	0%	148
Social Studies	66	44%	7	5%	63	42%	12	8%	2	1%	150
Total Secondary/Middle	549	44%	43	3%	494	40%	136	11%	13	1%	1235
Cog./Lrng./Emot. Dis.	145	32%	50	11%	212	47%	42	9%	5	1%	454
Hearing Impaired	0	0%	0	0%	4	33%	7	58%	1	8%	12
Early Childhood Spec. Ed.	14	50%	3	11%	8	29%	2	7%	1	4%	28
Other Spec. Ed.	9	36%	3	12%	8	32%	4	16%	1	4%	25
Total Special Education	168	32%	56	11%	232	45%	55	11%	8	2%	519
Administrator	3	14%	0	0%	15	71%	3	14%	0	0%	21
School Social Worker	11	79%	3	21%	0	0%	0	0%	0	0%	14
Principal	2	4%	0	0%	43	81%	7	13%	1	2%	53
School Counselor	41	52%	4	5%	28	35%	6	8%	0	0%	79
School Psychologist	18	44%	7	17%	12	29%	4	10%	0	0%	41
Physical Therapist	4	13%	18	58%	0	0%	2	6%	7	23%	31
Occupational Therapist	9	20%	21	46%	5	11%	4	9%	7	15%	46
Special Education Director	0	0%	2	20%	7	70%	1	10%	0	0%	10
Speech/Language Path.	29	47%	6	10%	19	31%	6	10%	2	3%	62
Total Related Services	117	33%	61	17%	129	36%	33	9%	17	5%	357
Grand Total	1311	42%	204	7%	1207	39%	329	11%	44	1%	3095

Source: Figures school officials reported to DPI in database format

The number of newly hired educators from 1994-1995 to 2000-2001 is shown in Table 12. These data indicate a steady increase in the number of newly hired educators from 1996-97 to 2000-2001. The number of newly hired elementary teachers increased steadily since 1997-1998. The number of newly hired special education teachers increased the last two years. New hires in related services areas increased each year since 1996-1997. Similarly, new hires in secondary education increased every year since 1995-1996 with the exception of 1999-2000.

Table 12

Trends in New Hires by Licensure/Subject Area

Area	1994-95	1995-96	Change	1996-97	Change	1997-98	Change	1998-99	Change	99-2000	Change	2000-01	Change
Elementary	961	589	-372	503	-86	597	94	745	148	859	114	984	125
Agriculture	20	23	3	16	-7	13	-3	16	3	16	0	18	2
Family/Consumer Ed.	50	23	-27	37	14	27	-10	40	13	26	-14	40	14
Tech Ed.	70	44	-26	50	6	55	5	47	-8	73	26	60	-13
Business Ed.	54	35	-19	39	4	49	10	56	7	45	-11	50	5
English	217	140	-77	129	-11	164	35	156	-8	167	11	186	19
Reading	95	75	-20	51	-24	51	0	55	4	45	-10	47	2
Foreign Language	150	64	-86	87	23	88	1	80	-8	82	2	90	8
ESL	40	22	-18	20	-2	23	3	31	8	25	-6	44	19
Math	228	115	-113	124	9	162	38	173	11	158	-15	153	-5
Music	174	93	-81	99	6	112	13	134	22	116	-18	109	-7
Physical Ed.	134	82	-52	85	3	105	20	114	9	101	-13	85	-16
Art	86	51	-35	53	2	62	9	63	1	59	-4	57	-2
Science	227	139	-88	138	-1	144	6	155	11	166	11	148	-18
Social Studies	158	89	-69	85	-4	126	41	139	13	119	-20	150	31
Total Secondary/Middle	1703	995	-708	1013	18	1181	168	1259	78	1198	-61	1235	37
Cog./Lrng./Emot. Dis.	508	465	-43	305	-160	355	50	355	0	400	45	454	54
Hearing Impaired	13	14	1	11	-3	16	5	13	-3	5	-8	12	7
Early Childhood Spec. Ed.	66	38	-28	29	-9	36	7	26	-10	34	8	28	-6
Other Spec Ed.	7	7	0	5	-2	4	-1	3	-1	5	2	25	20
Total Special Education	594	524	-70	350	-174	411	61	397	-14	444	47	519	75
School Psychologist	54	28	-26	29	1	45	16	40	-5	37	-3	41	4
Physical Therapist	10	7	-3	6	-1	7	1	6	-1	6	0	31	25
Occupational Therapist	13	12	-1	11	-1	13	2	15	2	14	-1	46	32
Speech/Language Path.	101	43	-58	68	25	55	-13	68	13	73	5	62	-11
Total Related Services	178	90	-88	114	24	120	6	129	9	130	1	180	50
Grand Total	3436	2198	-1238	1980	-218	2309	329	2530	221	2631	101	2918	287

Source: Figures school officials reported to DPI in database format

School District Survey

A survey was mailed to administrators of all Wisconsin public school districts and Cooperative Educational Service Agencies (CESA) in fall 2000. Surveys were revised in the fall of 1999 based on suggestions from school district personnel, DPI representatives, and faculty from institutions of higher learning. The survey reflected the authors' goal to collect valid and reliable supply and demand data. Survey materials included these items: (1) cover letter, (2) instructions, and (3) survey form. The survey consisted of two parts. Part one was "Educator Supply and Demand Rating Scale for School District Analysis." See Appendix A for the survey form. Respondents reported the number of vacancies across licensure / subject areas and levels, the number of applicants, and rated the supply of applicants on a five-point scale. Part two requested information on emergency licenses, attrition data, and critical shortage areas. Emergency licenses, attrition data, and critical shortage areas are discussed later in this report. Survey data could be submitted by mail, fax, or electronically through a website. See Appendix B for a list of survey respondents and non-respondents, as well as district enrollment data.

A total of 443 surveys were sent in the first mailing. A second mailing and phone contacts followed to districts that did not respond. Responses were received from 353 of the 443 school districts or CESAs, an 80% return rate.

Rating of Supply

One measure of supply and demand is school district ratings of teacher supply. School district respondents rated the teacher supply for licensure/subject areas in which the district had at least one vacancy for 2000-2001. Ratings were based on the 5-point Likert scale below:

Extreme
Shortage
1

Slight
Shortage
2

Supply Normal
to Demand
3

Slight
Oversupply
4

Extreme
Oversupply
5

An average rating was calculated by the sum of ratings for each area divided by the number of districts that submitted a rating. A weighted average based on population also was created. Each CESA's average rating was weighted according to population. Milwaukee and Kenosha were treated as separate units with their own weightings. The Milwaukee Public School District, with about 100,000 students, is twice as large as the average CESA. Table 13 includes a complete listing of average ratings across licensure/subject areas.

Table 13

Average Supply Rating Across Licensure/Subject Areas

Licensure/Subject Areas	State Average Supply Rating	State Average Supply Rating, Weighted by size
Emotional Beh. Dis.	1.16	1.15
Technology Ed.	1.18	1.15
Visual Imp.	1.25	1.21
Cognitive Dis.	1.29	1.26
Chemistry	1.30	1.32
Deaf/Hearing Imp.	1.35	1.02
Family/Consumer Ed.	1.38	1.29
Physics	1.39	1.51
Library/Media	1.54	1.50
Foreign Language	1.55	1.67
Mathematics	1.55	1.47
ESL/Bilingual	1.58	1.61
Cross Categorical	1.59	1.52
Learning Dis.	1.59	1.56
Business Ed.	1.61	1.60
Agriculture	1.61	1.88
Speech/Language Path.	1.62	1.70
Director of Special Ed.	1.63	1.79
Superintendent	1.67	1.83
Reading Specialist	1.68	1.73
Early Child. Special Ed.	1.71	1.78
School Psychologist	1.74	1.68
Biology	1.76	1.75
Earth Science	1.80	1.70
Reading Teacher	1.83	1.67
General Science	1.88	1.80
Physical Ther./Occ. Ther.	1.93	2.00
Curriculum Director	1.95	1.82
School Social Worker	1.95	2.10
Journalism/Speech	1.96	2.08
Music	1.99	1.97
High School Principal	1.99	1.89
School Nurse	2.04	1.72
School Counselor	2.20	2.35
Middle School Principal	2.23	2.18
Elementary Principal	2.34	2.05
Art	2.42	2.54
English/Language Arts	2.44	2.56
Early Child./Kindergarten	2.59	2.68
Physical Ed.	2.77	2.79
Social Studies	3.05	3.15
Elementary	3.16	3.28

Source: Written survey of public school district officials

Supply ratings ranged from 1.16 to 3.16. The overall average supply rating of 1.87 was similar to last year's average of 1.86. Thus, school districts rated Wisconsin's overall teacher supply slightly below the slight shortage rating of 2. The fields rated in the extreme shortage range (with ratings below 1.5) were emotional behavioral disability, technology education, visual impairment, cognitive disability, chemistry, deaf/hearing impairment, family/consumer education, and physics. Areas rated in the supply normal to demand (2.5 to 3.5) were early childhood/kindergarten, physical education, social studies, and elementary education. All other areas were in the slight shortage range, 1.5 to 2.5.

One change from last year was that categories rated with the highest supply ratings -- elementary education, social studies, physical education and early childhood/kindergarten -- had noticeably lower supply ratings. Elementary supply was rated 3.77 last year, compared with 3.16 this year; social studies rating changed from 3.43 to 3.05; physical education rating dropped from 3.24 to 2.77; early childhood/kindergarten rating changed from 2.8 to 2.59. This indicates that fields previously rated at relative oversupply were being rated closer to supply normal to demand.

Weighted figures were similar to unweighted figures. The overall average for weighted ratings was 1.88, compared to 1.87 for unweighted averages. This may be because both smaller, rural districts and large districts such as Milwaukee have similar difficulties in finding an adequate supply of teachers. Weighted ratings give more impact to Milwaukee, but lessen the impact of smaller districts, thus offsetting the effect on the ratings.

Limitations exist in the use of supply rating figures. First, the ratings are subjective and reflect only the opinion of the person completing the survey.

Respondents vary in their school district position and in their awareness of availability of teaching candidates and openings. Second, one large school district, Madison Metropolitan School District, did not complete the survey. School officials there reported that due to decentralized, building-by-building hiring procedures, it would be inordinately time consuming to compile supply and demand figures for the district as a whole. Third, statewide ratings will not necessarily reflect conditions in a particular school district. Complete school district reports are available at the supply and demand web site. Maps in the employment outlook section are broken down by CESA to give a more regionalized view of supply and demand.

Ratio of Applicants to Vacancies

Another measure of teacher supply and demand is applicants per vacancy. Fields with higher numbers of applicants per vacancy are more likely to be in oversupply, whereas fields with fewer applicants per vacancy are more likely to be in undersupply. School districts listed the number of vacancies and applicants in 48 licensure/subject areas for the 2000-2001 school year. The ratio was calculated by dividing the number of applicants by the number of vacancies. Figures are shown in Table 14.

Table 14

Ratio of Applicants to Vacancies for 2000-2001

Licensure/Subject Areas	Total	Total	Ratio of
Visual Imp.	18.00	12.00	1.50
Physical Ther./Occ. Ther.	122.00	46.00	2.65
Emotional/Beh. Dis.	552.00	207.25	2.66
Deaf/Hearing Imp.	60.00	20.00	3.00
ESL/Bilingual	251.00	83.00	3.02
Library/Media	278.00	84.00	3.31
Cognitive Dis.	643.00	168.00	3.83
Family/Consumer Ed.	266.00	68.00	3.91
Cross Categorical	463.00	111.00	4.17
Learning Dis.	1317.00	293.75	4.48
Technology Ed.	490.00	108.00	4.54
Physics	161.00	32.00	5.03
School Psychologist	309.50	60.90	5.08
Speech/Language Path.	593.00	114.60	5.17
Agriculture	159.00	30.00	5.30
Foreign Language	893.00	167.49	5.33
Journalism/Speech	67.00	12.00	5.58
Early Child. Spec. Ed.	281.00	50.00	5.62
Mathematics	1670.00	293.50	5.69
School Nurse	169.00	29.00	5.83
Business Ed.	583.00	97.00	6.01
Director of Special Ed.	128.00	21.00	6.10
Reading Teacher	421.00	65.00	6.48
Music	1482.00	220.25	6.73
Earth Science	288.00	41.00	7.02
Reading Specialist	292.00	40.00	7.30
Chemistry	348.00	46.33	7.51
General Science	858.00	113.33	7.57
School Counselor	1081.00	121.00	8.93
Biology	677.00	74.33	9.11
School Social Worker	220.00	24.00	9.17
Curriculum Director	198.00	21.50	9.21
Art	882.00	95.00	9.28
English/Language Arts	3430.00	320.99	10.69
Superintendent	383.00	28.00	13.68
High School Principal	565.00	41.00	13.78
Early Child./Kindergarten	5905.00	385.00	15.34
Physical Ed.	2695.00	171.50	15.71
Elementary Principal	1005.00	62.00	16.21
Elementary	23738.00	1234.20	19.23
Middle School Principal	619.00	32.00	19.34
Social Studies	4311.00	217.50	19.82

Source: Written survey of public school district officials

The range of applicants to vacancy ratio was 1.50 to 19.82. This range is noticeably reduced from last year's range of 1.11 to 36.44. The number of licensure/subject areas showing a ratio of greater than 20 applicants per vacancy dropped from five last year to none this year. Special education fields made up the four licensure/subject areas with ratios of 3.0 or fewer applicants per vacancy. Starting with the fewest applicants per vacancy, these were visual impairment, physical/occupational therapist, emotional behavioral disability, and deaf/hearing impairment. This group of fewest applicants per vacancy was similar to last year. Emotional behavioral disability showed the greatest change among this group, with its applicants to vacancies ratio decreasing from 4.06 to 2.66 and its ranking among those with the lowest ratios changing from eighth last year to fourth this year.

The licensure/subject areas with applicant to vacancy ratios between 3.0 and 5.0 were ESL/bilingual, library/media, cognitive disability, family/consumer education, cross categorical special education, learning disability, and technology education.

The six areas with ratios greater than 15.0 applicants per vacancy were social studies, middle school principal, elementary, elementary school principal, physical education, and early childhood/kindergarten. This group was similar to last year's rankings, although all six areas showed a decrease in the ratio of applicants to vacancies. The greatest decrease was in social studies, with 36.44 applicants per vacancy last year and 19.82 this year.

It should be noted that these are average figures for the state, and vary greatly across districts. Milwaukee, for instance, had numerous areas in which there were fewer applicants than vacancies. Since Milwaukee is the state's largest school district, its figures merit attention. Milwaukee had fewer applicants than vacancies in 20

licensure/subject areas. These included all secondary fields and most special education, special fields, and specialized personnel. A particularly difficult area appeared to be secondary mathematics, where there were 22 vacancies and no applicants. Milwaukee's vacancy and applicant data, as reported in the school survey, are shown in Table 15.

Table 15

Milwaukee School District Vacancies and Applicants

Licensure/Subject Areas	Number of Vacancies	Number of Applicants	Rating
Elementary	X	X	X
Early C./Kindergarten	9	35	2
Elementary	48	160	2
Other	39	166	1
Mid/High School	X	X	X
Biology	7	2	1
Chemistry	4	1	1
Earth Science	2	1	2
Eng./Lang. Arts	13	2	2
General Science	7	1	1
Journalism/Speech			
Mathematics	22	0	1
Physics	3	0	1
Social Studies	11	2	3
Other	154	200	2
Special Fields	X	X	X
Agriculture			
Art	3	20	2
Business Ed.	1	1	2
Fam./Consumer Ed.			
Foreign Language	4	1	2
Music	15	7	2
Physical Ed.	11	9	2
Technology Ed.	2	0	1
Other			
Special Education	X	X	X
Cognitive Dis.	16	16	1
Cross Categorical	2	0	1
Deaf/Hear Impair.			
Early Child. Special Ed.	6	7	1
Emotional Dis.	33	19	1
Learning Dis.	47	34	1
Speech/Lang. Path	1	21	1
Visually Imp.	1	0	1
PT/OT			
Other			
Specialized Personnel	X	X	X
ESL/Bilingual	2	0	1
Library/Media	2	0	1
Reading Specialist	1	0	1
Reading Teacher	2	0	1
School Counselor	1	1	3

Source: Written survey of public school district officials

Use of applicant to vacancy ratio also has several limitations. First, these are aggregate numbers showing the overall number of applicants and vacancies in the state. Therefore, they do not reflect situations in individual school districts. Complete district reports are available at the supply and demand web site. Second, exact figures for the number of applicants are increasingly difficult because some districts have moved to using a private, electronic database of centralized job applications for the state. Those who apply using this service do not apply to specific school districts, but rather make themselves available to any district subscribing to the service. Third, the vacancy figures include both part-time and full-time positions, and therefore overstate the number of vacancies. Finally, many, if not most, qualified individuals apply for more than one position. Consequently, the number of applicants in a licensure/subject area is not equal to the number of individuals actively seeking employment in each area. For example, an individual that applied for five different elementary positions in different districts was counted five times.

Discussion

These two measures, district ratings of teacher supply and ratio of applicants per vacancy, produced similar results. Correlation between the two measures was 0.74. Shortages were identified in specific special education categories, technology education, ESL/bilingual, physics, family/consumer education, and library/media. Relatively high supply was indicated in elementary, social studies, physical education, and early childhood/kindergarten. Chemistry and physics were considered shortage areas when using the supply ratings, but average when using applicant to vacancy ratio.

District Critical Shortage Data

Present and future demand for teachers in specific licensure/subject areas is influenced by political actions such as legislative mandates, initiatives, and regulations. For example, demand for special education teachers primarily results from federal legislation that mandates programs for students with disabilities who require special education. Similarly, demand for elementary teachers is affected by Wisconsin's Student Achievement Guarantee in Education program (SAGE) that provides funding to reduce class sizes in primary grades. In addition, school districts must explore creative methods to attract and retain teachers because of critical shortages in specific licensure/subject areas and a highly competitive market.

The survey sent to Wisconsin school districts included questions to obtain information related to areas of critical shortage of educational personnel. Specific objectives included the following: (1) To identify local, state, and federal programs that may have the greatest impact on hiring in the next 5 years, and (2) To identify methods school districts use to recruit, hire, and retain personnel in critical shortage areas

The following sections include a discussion of responses to survey items. Each survey question is followed by analyses of data and brief discussion.

Consider the impact of state, federal, and local programs on your district's demand for educational personnel. What program(s) will have the greatest influence on hiring in the next 5 years? Briefly explain.

Of 353 completed surveys, 219 (62%) responded to this item. Most responses indicated concern for future hiring in specific licensure / subject areas. Four subject / license areas were mentioned on 30 or more responses. Special education areas were mentioned by 98 districts, or 45% of total respondents. Similarly, 48 school districts (22%) indicated that technology education would be a future area for concern in hiring. Mathematics was listed by 33 school districts (15%) and science by 32 (15%).

Three licensure / subject areas were mentioned less frequently, that is on between 10 and 29 responses. Eighteen school districts (8%) indicated filling future administrative positions was a concern. Similarly, fourteen school districts (6%) indicated concern for filling future foreign language positions, and 12 (5%) English as a second language. Numerous other licensure / subject areas were mentioned on fewer than 10 responses.

According to school districts several programs will have significant impact on hiring over the next five years. Class size reduction and SAGE were most frequent responses; fifty-one responses (23%) included one or the other. Thirty-five responses (16%) specifically included SAGE, and 16 responses (7%) included "class size reduction."

A number of other factors were mentioned in responses to the aforementioned question. Revenue caps were included in 37 responses (17%). New teacher licensure/subject requirements was included by 18 school districts (8%). Low salaries and high number of retirements were mentioned in 11 (5%) and 10 (5%) responses, respectively. Similarly, 11 school districts (5%) suggested the Qualified Economic Offer (QEO) will affect hiring. State aid, funded programs, and the state retirement program were each mentioned in four (2%) responses.

Briefly describe methods your district uses to recruit, hire, and retain personnel in critical shortage areas such as special education, technology education, science, ESL/bilingual education, etc.

Of 353 completed surveys, 217 school districts (61%) responded to this item. School districts' responses included myriad approaches to recruit, hire, and retain educational personnel in critical shortage areas. Responses to this question were categorized as the following: (1) media advertising, (2) professional contacts, (3) monetary incentives, (4) job benefits and (5) non-traditional pools.

Nearly every district reported using advertisements for position vacancies in various media. In fact, 216 school districts (99.5%) reported using at least one form of media advertisements. The most frequently used medium for advertisements was the internet. The internet reportedly was used by 119 school districts (55%). Specifically, school districts advertise on the DPI website, their own websites, and the Regional Education Applicant and Placement Program (REAP) website. Print advertisements, including newspaper and professional journals, were mentioned by 42 school districts (19%).

Professional contacts and networking were reportedly used by 135 school districts (62%). Most frequently, school districts responded that contacts were made with individuals in institutions of higher learning (92, 42%). Responses in this category included the following: (1) universities/colleges, (2) intern programs, (3) professors, and (4) technical colleges. Many school districts reported using informal contacts with other professionals, or networking (25, 12%). An additional 18 school districts (8%) cited contacts with professional and educational organizations such as Association of Wisconsin School Administrators, Cooperative Educational Service Agencies (CESA) and Wisconsin Association of School Boards. Finally, school districts reportedly utilize job fairs to advertise as well as conduct initial interviews. Nearly one-fifth of respondents (38, 18%) reported direct contact with prospective employees through job fairs.

Many respondents reported job benefits were provided to attract and retain personnel in critical shortage areas. Job benefits most frequently mentioned included monetary incentives, formal on-the-job support, and less tangible benefits related to working environments. Many districts (47, 22%) reported monetary incentives were used to attract and retain personnel. For example, 37 school districts (17%) reported school district salary scales were a benefit used to attract teachers, whereas five schools (2%) reportedly used one-time monetary incentives at the time of hire. Ten percent (22) reported that formal professional structures such as mentoring and staff development programs were offered as benefits. Several school districts (18, 8%) reported offering an array of other benefits such as positive/supportive environments and flextime to applicants. Similarly, 11 school districts (5%) reported that they stressed benefits of the geographic location, size of the district, or building facilities in which employees would

work. For example, if the position was in a new building that was highlighted as a benefit to attract candidates.

The final category of responses includes efforts to fill vacancies in critical shortage areas by expanding the pool of potential candidates. Thirty-seven school districts (17%) reportedly sought candidates beyond the geographic regions that they typically considered. For example, respondents indicated that candidate pools were expanded by recruitment efforts out of state or from other districts. Ten school districts (5%) reportedly considered individuals with emergency licenses, long-term substitutes and alternative site teachers as a means to fill positions in shortage areas.

In summary, the number of districts responding to this question suggests the challenges of recruiting, hiring, and retaining educational personnel are statewide difficulties. Likewise, the array of strategies implemented by school districts suggests this is a challenge with no simple solution. Shortages require creative solutions for school districts to compete for a limited pool of candidates. School districts anticipate continued challenges in hiring personnel to fill positions in licensure/subject areas that have had chronic shortages over the past decade. For example, data indicate school districts view special education, technology education, mathematics, and science as areas of concern for the next 5 years.

Emergency Licenses

Wisconsin's Department of Public Instruction issues emergency licenses to ease critical shortages in a number of educational fields. School districts hire emergency licensees when a licensed candidate is not available or when extenuating circumstances justify it. The number of emergency licensees hired by school districts across licensure/subject areas provides additional data to identify areas of personnel shortages. It is reasonable to assume that high numbers of emergency licenses in given licensure/subject areas are indicative of shortages of qualified personnel.

There are limitations to these data. One, data provided by individual school districts may be inaccurate for various reasons and were not verified. Two, emergency license data from school districts and the Department of Public Instruction do not indicate whether individuals were hired for full-time or part-time positions. For example, an individual licensed in chemistry may teach 5 sections of chemistry in a school district, but may obtain an emergency license to teach 1 section of biology. Similarly, a special educator licensed in learning disability may primarily serve students with learning disability, but may obtain an emergency license to serve one student with cognitive disability.

One portion of the comprehensive survey sent to all Wisconsin public school districts and CESA s included questions regarding hiring of individuals with emergency licenses. The following two questions were included in the survey:

- How many vacancies for the 2000-2001 school year were filled by individuals with Emergency License?
- What licensure/subject areas and grade levels were these individuals hired to fill?

Information is presented in 2 sections. Sections include: (1) Vacancies Filled by Emergency Licensees, and (2) Emergency Licenses Issued by DPI. A brief discussion follows.

Vacancies Filled by Emergency Licensees

Of 353 surveys returned, 262 school districts (74%) responded to the survey item regarding number of 2000-2001 vacancies filled by individuals with emergency licenses (See Table 16). Districts reported emergency licensees were hired for 738 vacancies. Nearly two-thirds of responding school districts (65%) reported hiring emergency licensees for 2000-2001 vacancies. The number of vacancies filled by emergency licensees across school districts ranged from 1 to 222 vacancies. Approximately 43% of school districts that hired emergency licensees filled a single vacancy, whereas more than two thirds (68%) hired emergency licensees for 2 vacancies or fewer, and approximately 92% of districts hired emergency licensees to fill 5 vacancies or fewer. Fourteen school districts (8%) reported hiring emergency licensees for more than 5 vacancies for the 2000-2001 school year. It should be noted that these numbers do not reflect the number of individuals with emergency licenses in a district but the number of individuals with emergency licenses newly hired to fill vacancies for the 2000-2001 school year.

Table 16

Frequency Distribution of 2000-2001 School District Vacancies Filled by EmergencyLicense

Number of 2000-2001 Vacancies Filled by EL	Number of Districts
0	92
1	73
2	43
3	18
4	13
5	9
6	3
7	1
8	1
10	1
12	1
14	1
15	1
18	1
27	1
37	1
40	1
222	1

Source: Written survey of public school district officials

Vacancies filled include part-time and full-time positions. Districts provided licensure/subject area descriptions for a fraction of the vacancies filled by emergency licensees. Table 17 provides vacancies filled by emergency licensees across the 14 most frequently cited licensure/subject areas for 2000-2001 as reported by school districts.

Table 17

Licensure/Subject Areas with Highest Number of New Vacancies (2000-2001) Filled by
Emergency Licensees in First Year as Reported by School Districts

Special Education	130
Science	29
Foreign Language	29
Mathematics	25
Reading	21
Library/Media	20
Music	16
Business Education	15
Technology Education	14
Elementary	12
ESL	12
Social Studies	5

Districts reported approximately one-third (34%) of all 2000-2001 vacancies filled by emergency licensees were in special education. Within special education, emotional behavioral disability and learning disability positions accounted for approximately half the vacancies filled by emergency licensees with 27% and 19%, respectively.

Science, foreign language, mathematics, reading, and library/media comprised the next tier of licensure/subject areas filled by emergency licensees; the number of vacancies filled by newly hired emergency licensees in each of these areas was between 20 and 29. Districts reported between 5 and 19 vacancies filled by emergency licensees

in music, business education, technology education, elementary, ESL, and social studies.

Emergency Licenses Issued by DPI

Table 18 includes the number of emergency licenses issued across license/subject areas by Wisconsin's Department of Public Instruction from 1990-1991 through 2000-2001. These data include emergency licenses issued to individuals for the first time and renewals. A total of 21,616 emergency licenses were issued during this 11-year period. The total number of emergency licenses issued across licensure/subject areas each year ranged from 1,920 in 1997-1998 to 2,499 in 2000-2001. An average of 1,965 total emergency licenses was issued each year during the 11-year period. With the exceptions of 1993-1994 and 1996-1997, the total number of emergency licenses increased from the previous year. The two largest increases occurred in the past two years, with 8% and 20% increases from 1998-1999 to 1999-2000 and 1999-2000 to 2000-2001, respectively.

Wisconsin Department of Public Instruction issued 2,499 emergency licenses in 2000-2001. Of these, 1,135 (45%) were in secondary areas, 1,068 (43%) were in special education areas, 267 were in elementary (11%) and 29 (1%) were in related services. Emergency licenses issued increased from 1999-2000 to 2000-2001 in elementary, secondary, and special education areas. Percentage increases of 102% in elementary, 15% in secondary areas, and 18% in special education areas were indicated. The number of emergency licenses issued in related services decreased by 58%.

The increase from 1999-2000 to 2000-2001 in the number of emergency licenses issued in elementary education, an area noted as having an abundant supply of teachers, requires an explanation. The increase is due to specialized programs including foreign language immersion, Montessori, inclusive kindergartens, and more than 100 licenses issued based on an innovative/experimental program for Milwaukee Public

Schools. Also, there is a potential for double counting some emergency licenses that are issued to fully licensed elementary teachers assigned to teach in elementary bilingual education programs.

A significant portion of the increase in number of emergency licenses issued in secondary areas from 1999-2000 to 2000-2001 may be attributed to a few specific licensure/subject areas. Substantial increases were noted in bilingual education (59%), science, (42%), social studies (41%), mathematics/computer science (36%), foreign language (13%) and reading (11%). In contrast, decreases were noted in agriculture (-73%), physical education (-28%), and business education (-19%).

As previously noted, emergency licenses in special education in 2000-2001 increased by approximately 18% compared to 1999-2000. Significant increases were noted in cognitive disability (34%), learning disability (34%), and emotional behavioral disability. Decreases were noted in speech/language (-36%), hearing impairment (-30%), and visual disability (-100%).

Emergency licenses for emotional behavioral disability and learning disability were issued more frequently than for any other licensure/subject area in 2000-2001. The number of emergency licenses issued for cognitive disability, the third highest area in special education, was exceeded only by emergency licenses for elementary with 169 and 267, respectively. For comparison, other licensure/subject areas with 90 or more emergency licenses issued included reading (151), bilingual education (137), science (119), ESL (100), mathematics/computer science (94), and library/media (90).

Table 18

Number of Initial and Renewal Emergency Licenses Issued in Wisconsin for 1990-2001

School Year	90-91	91-92	92-93	93-94	94-95	95-96	96-97	97-98	98-99	99-00	00-01	Ave.
Elementary												
Total Elementary	100	102	104	95	109	123	110	110	126	132'	267 ²	125
Secondary Education												
Agriculture	1	2	2	3	2	3	4	4	4	11	3	4
Fam./Consumer Ed	16	5	17	23	12	3	6	9	9	15	9	11
Tech. Ed.	9	10	11	11	23	27	42	55	45	69	74	34
Business Ed.	2	4	9	4	5	4	5	12	30	36	29	13
Marketing Ed.	3	1	2	4	1	2	2	3	4	4	4	3
Eng./Jour./ Sp./ Thtr	24	24	16	22	25	30	37	44	51	64	59	36
Reading	154	163	173	162	154	136	125	159	148	136	151	151
Foreign Language.	51	47	64	61	52	44	58	78	76	78	88	63
ESL	88	78	79	59	64	63	60	72	98	102	100	78
Bilingual Ed.	55	87	91	N/A	86	85	83	91	67	86	137	87
Math/ Comp. Sci.	30	32	29	26	29	37	36	44	43	69	94	43
Driver/Safety Ed.	20	19	21	22	12	31	36	41	35	28	30	27
Music (K-12)	30	29	23	21	30	16	30	34	52	56	61	35
Physical Ed.	8	8	5	10	9	9	10	11	11	18	13	10
Health	29	23	23	15	23	18	19	21	16	22	27	21
Art (K-12)	11	11	14	7	7	11	11	12	14	8	11	11
Science	48	49	65	69	71	63	78	83	89	84	119	74
Social Studies	56	48	57	41	38	31	38	42	29	35	36	41
Library Media.	30	37	32	26	24	28	39	52	54	64	90	43
Total Secondary/Middle	665	677	733	606	667	641	719	867	875	985	1135	779
Special Education												
Hearing	1	2	4	3	4	6	3	2	9	10	7	5
Cognitive Dis.	78	76	84	89	98	110	104	123	143	126	169	109
Early Child. Sp. Ed.	75	91	102	80	62	63	58	43	47	51	64	67
Learning Disability	354	338	354	252	224	245	225	243	250	278	373	285
Speech/Language Path.	41	39	30	27	37	53	56	58	42	39	25 ³	41
Visual Disability	5	2	4	2	1	5	8	5	5	7	0	4
Emot. Beh. Dis.	595	619	561	521	511	551	486	404	373	394	430	495
Total Special Education	1149	1167	1139	974	937	1033	940	878	869	905	1068	1005
Related Services												
School Counselor	50	42	40	35	41	52	50	54	51	57	17 ⁴	44
Social Worker	18	7	8	N/A	11	12	5	9	10	8	6	9
School Psychologist	0	0	2	N/A	12	10	7	2	3	4	6	5
Total Related Services	68	49	50	35	64	74	62	65	64	69	29	57
Grand Total	1962	1995	2026	1710	1777	1871	1831	1920	1934	2091	2499	1965

- 1999-2000 This total includes foreign language immersion, Montessori, inclusive kindergartens, and at least 60 licenses for bilingual elementary education programs.
 - 2000-2001 Much of this increase is due to specialized programs including: foreign language immersion, Montessori, inclusive kindergartens, and an innovative/experimental program for Milwaukee Public Schools.
 - 2000-2001 Much of this decrease is due to changes in medicare funding which caused a shift of employment from the private sector to public schools.
 - 2000-2001 Much of this decrease is due to DPI change in Chapter PI 34.
- N/A = no data available

Source: Teacher Licensing Team, Wisconsin Department of Public Instruction, 2001.

Brief descriptions of trends in the number of emergency licenses issued from 1990-1991 to 2000-2001 for selected licensure/subject areas will follow. Data from Table 16 were used to generate descriptions. Areas that averaged 70 or more emergency licenses issued per year included: emotional behavioral disability, learning disability, reading, elementary, cognitive disability, bilingual education, English as a second language, and science.

Emotional behavioral disability: The number of emergency licenses issued in emotional behavioral disability from 1990-1991 to 2000-2001 tended to decrease; slight increases occurred over the past two years; the numbers of licenses in this area were the highest each year.

Learning disability: The number of emergency licenses increased since the 1996-1997 school year; an increase of 95 (34%) occurred from 1999-2000 to 2000-2001.

Reading: The number of emergency licenses remained stable and relatively high with a range of 125 to 173 licenses issued.

Elementary: The number of emergency licenses was relatively stable from 1990-1991 to 1999-2000 school years; a significant increase of 135 licenses (102%) was reported from 1999-2000 to 2000-2001. Much of this increase is due to specialized programs including: foreign language immersion, Montessori, inclusive kindergartens, and an innovative/experimental program for Milwaukee Public Schools.

Cognitive disability: The number of emergency licenses tended to increase over the 11-year period (from 78 in 1990-1991 to 169 in 2000-2001); presently, this is an area with one of the highest number of emergency licenses issued.

Bilingual education: The number of emergency licenses issued was between 80 and 90 in 7 of the 10 years that data were available. The highest number issued was 137 in 2000-2001.

English as a second language: An increasing number of emergency licenses can be noted from 1996-1997 (60) to 2000-2001 (100); a significant increase of 26 (36%) occurred from 1997-1998 to 1998-1999 school years.

Science: The number of emergency licenses issued increased from 48 in 1990-1991 to 119 in 2000-2001; a 42% increase was reported from 1999-2000 to 2000-2001.

The following areas averaged between 25 and 69 emergency licenses issued per year for the 11-year period between 1990-1991 and 2000-2001.

Early childhood special education: From 1992-1993 to 1997-1998 the number of emergency licenses decreased from 102 to 43; an increasing trend is evident from 1997-1998 (43) to 2000-2001 (64).

Foreign language: From 1995-1996 (44) to 2000-2001 (88) there was an increasing trend of number of emergency licenses issued.

School counselor: From 1993-1994 (35) to 1999-2000 (57) there was an increasing trend; the number of emergency licenses decreased by 70% from 1999-2000 (57) to 2000-2001 (17). Much of this decrease is due to DPI change in Chapter PI 34.

Instructional/Library/Media: The number of licenses increased from 1994-1995 (24) to 2000-2001 (90); the highest number of emergency licenses for the 11-year period was issued for the 2000-2001 school year.

Mathematics/Computer science: A stable trend was apparent from 1990-1991 through 1994-1995 with a range of between 26 and 30 licenses; an increasing trend was evident from 1995-1996 (37) to 2000-2001 (94); significant increases occurred from 1998-1999 (43) to 1999-2000 (69) and from 1999-2000 (69) to 2000-2001 (94), increases of 60% and 36% respectively.

Social studies: Overall, a decreasing trend for emergency licenses can be discerned from 1990-1991 (56) to 2000-2001 (36); the fewest number of emergency licenses was issued in 1998-1999 (29); increases of 19% and 41% occurred over the past two years.

Speech/Language: The highest number of emergency licenses was issued in 1997-1998 (58); from 1997-1998 (58) to 2000-2001 (25) there was a 62% decrease in licenses issued. Much of this decrease is due to changes in medicare funding which caused a shift of employment from the private sector to public schools.

English/journalism/speech/theater: The number of emergency licenses increased from 1992-1993 (16) through 1999-2000 (64); a slight decrease occurred from 1999-2000 to 2000-2001 (8%).

Music: The fewest number of emergency licenses was reported in 1993-1994 (21); increases were reported for every year from 1993-1994 (21) through 2000-2001 (61).

Technology education: The number of emergency licenses increased from 9 in 1990-1991 to 74 in 2000-2001; for only one year, 1997-1998 (55) to 1998-1999 (45), was it reported that there was a decrease from the previous year.

Driver/safety education: Since 1997-1998 (41) there was a decrease in emergency licenses issued with the exception of a slight increase of 7% from 1999-2000 (28) to 2000-2001 (30).

Discussion

In summary, school districts generally hire emergency licensees as intended, that is, as a limited approach to filling serious personnel needs. This is suggested by the fact that over one-third of reporting school districts (35%) hired no emergency licensees to fill 2000-2001 vacancies and over three-fourths of reporting school districts (80%) hired no more than 2 emergency licensees. Only 5% of responding districts reported hiring more than 5 emergency licensees.

Emergency licensee data reported by school districts suggest Wisconsin has shortages of licensed teachers. Responding districts reportedly hired 738 emergency licensees to fill 2000-2001 vacancies. Analyses of these data indicate severe personnel shortages in special education, especially in the categorical areas of emotional behavioral disability, learning disability, and cognitive disability. Other areas of shortage based on these data include science, foreign language, mathematics, and media/library.

Emergency license data provided by DPI further substantiate the existence of teacher shortages in a number of areas. Data in Table 18 indicate relatively high numbers of emergency licenses issued in several licensure/subject areas for 2000-2001. In particular, special education includes several areas of serious teacher shortages as indicated by high numbers of emergency licenses issued. Emotional behavioral disability, learning disability, and cognitive disability were among the highest numbers of emergency licenses issued. Reading, ESL, science, foreign language, mathematics, and library/media also were areas of relatively high numbers of emergency licenses issued.

Finally, longitudinal emergency license data over the past 11-year period suggest supply and demand trends across licensure/subject areas. For example, the number of

emergency licenses in cognitive disability and science increased steadily over this period, whereas learning disability and ESL numbers have spiked in the latter half of this period. In contrast, the number of emergency licenses in emotional behavioral disability steadily decreased over the 11 years, yet remains the licensure/subject area with the highest number issued. The number of elementary and reading emergency licenses remained stable and relatively high. Recent trends in mathematics/computer science, library/media, foreign language, music, English/journalism/speech/theater, and technology education may suggest need for further investigation and vigilance.

Survey of Program Completers

Surveys of the job status of program completers from Wisconsin teacher training institutions were included in this report. Two groups were surveyed about their current job status – recent program completers from state public and private teacher training institutions and program completers who were surveyed for last year’s report. The purpose of this component was to obtain a more complete picture of career paths followed by this population and to better understand supply and demand dynamics. Survey questions probed topics such as: (1) teaching certifications, (2) present job status, and (3) job location. See Appendix C for a copy of the cover letter and survey.

Criteria for participation in the survey of recent graduates included the following: (1) completed licensing program between December 1999 and August 2000 and (2) completed a program at a four-year institution in the University of Wisconsin System or a four-year private college. A random sample of 10% (174) of eligible participants was surveyed. When necessary, requests for participation included a first and second mailing and up to three phone contacts. Data were compiled and analyzed. See Table 19 and Figure 3 for program completer data.

A total of 149 recent graduates (86% return rate) participated. Results showed 63% teaching in Wisconsin public schools, 5% teaching in Wisconsin Private Schools, and 14% teaching out-of-state. Approximately 5% were part-time teachers, 7% substitute teachers, and 9% non-teachers. Overall, 82% of recent program completers were employed as full-time teachers. Differences were noted between public and private institution program completers. Program completers from public colleges were more likely than those from private colleges to teach full-time in a Wisconsin public school (65% vs. 54%) or teach full-time out of state (16% vs. 4%). Program completers from private colleges were more likely to teach full-time at in a Wisconsin private

school (11% vs. 4%) or substitute teach (15% vs. 2%). The two groups were similar in the percentage who were part time teachers and not teaching.

Several differences were noted with a similar survey of program completers in last year's supply and demand report. Program completers in last year's report had totals of 61% employed full-time at in Wisconsin public schools, 5% full-time private in-state, 12% full time out of state, 8% part-time, 10% substitute teaching, and 5% not teaching. The number of recent program completers teaching full-time increased from 78% last year to 82% this year. A drop in numbers of substitute teachers, from 10% last year to 5% this year, may indicate additional difficulties for school districts attempting to hire substitute teachers.

Table 19

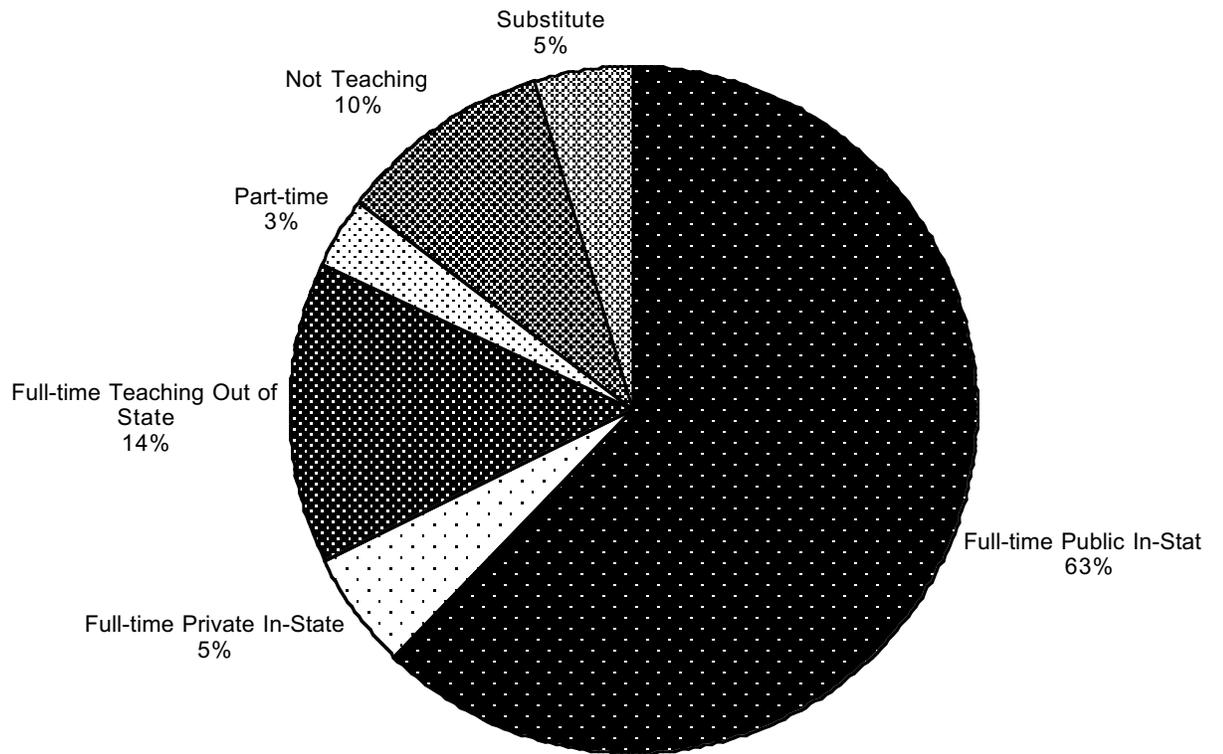
Wisconsin 1999-2000 Program Completer Status

	New Graduates of All Colleges (return rate =149/174 86%)							Total
	Full-time Public In- State	Full-time Private In- State	Full-time Teaching Out of State	Part-time	Not Teaching	Substitute		
Elementary	32	7	10	2	5	3	59	
Secondary	25	0	5	1	3	4	38	
Special ed.	6	0	1	1	4	0	12	
Dual	4	0	0	0	0	0	4	
Specialized K-12	26	1	5	1	3	0	36	
Total	93	8	21	5	15	7	149	
	63%	5%	14%	3%	9%	5%	99%	

Source: Written survey of program completers

Figure 3

Wisconsin 1999-2000 Program Completer Status



Source: Written survey of program completers

This year's survey included program completers from both public and private colleges. Results from the two groups are summarized in Tables 20 and 21.

Table 20

Wisconsin Public College Program Completer Status

New Graduates of Public Colleges (return rate =122/141 85%)

	Full-time Public In- State	Full-time Private In- State	Full-time Teaching Out of State	Part-time	Not Teaching	Substitute	Total
Elementary	25	4	9	1	3	1	43
Secondary	20	0	5	1	2	2	30
Special ed.	6	0	1	1	4	0	12
Dual	4	0	0	0	0	0	4
Specialized K-12	24	1	5	1	2	0	33
Total	79	5	20	4	11	3	122
Percentages	65%	4%	16%	3%	9%	2%	99%

Source: Written survey of program completers

Table 21

Wisconsin Private College Program Completer Status

New Graduates of Private Colleges (return rate =26/33, 79%)

	Full-time Public In- State	Full-time Private In- State	Full-time Teaching Out of State	Part-time	Not Teaching	Substitute	Total
Elementary	7	3	1	1	2	2	16
Secondary	5	0	0	0	1	2	8
Special ed.	0	0	0	0	0	0	0
Dual	0	0	0	0	0	0	0
Specialized K-12	2	0	0	0	0	0	2
Total	14	3	1	1	3	4	26
Percentages	54%	11%	4%	4%	11%	15%	99%

Source: Written survey of program completers

Results from a follow-up survey of those who participated in last year's program completer survey suggest that employment rates improved after one year. Data are shown in Table 22 and Figure 4. Last year's participants included only program completers from public colleges. The return rate was 72%. After one year, the percentage of those employed full-time at in-state public schools increased from 61% to 74%. The percentage working as substitute teachers dropped from 10% to 2%, another indication of potential difficulties in the supply of substitute teachers.

Table 22

Follow-up Survey of 1998-1999 Wisconsin Program Completer Status

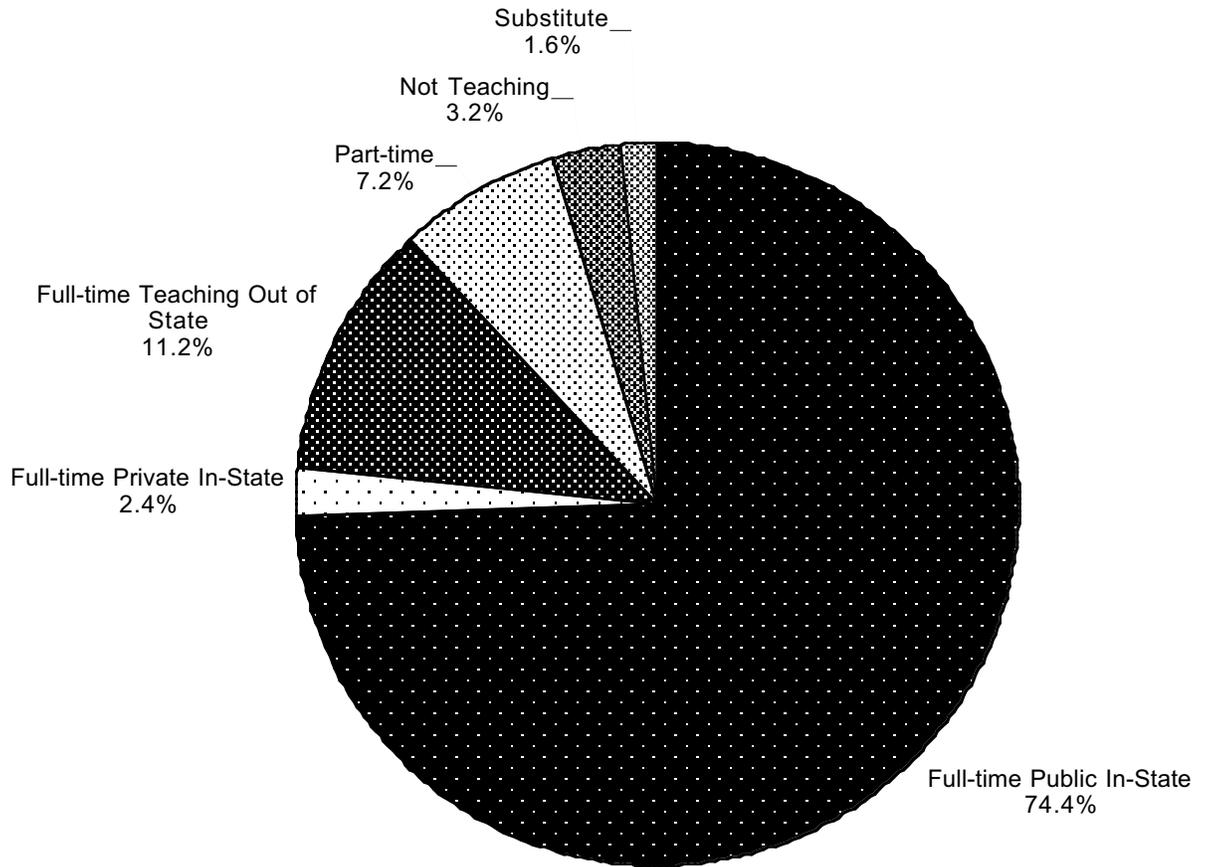
Followup of last year's participants (return rate = 125/174, 72%)

	Full-time Public In- State	Full-time Private In- State	Full-time Teaching Out of State	Part-time	Not Teaching	Substitute	Toital
Elementary	51	3	6	5	1	1	67
Secondary	15	0	3	1	2	0	21
Special ed.	14	0	3	1	0	0	18
Dual	3	0	0	0	0	0	3
Specialized K-12	10	0	2	2	1	1	16
Total	93	3	14	9	4	2	125
Percentages	74%	2%	11%	7%	3%	2%	99%
One year earlier	61%	5%	12%	8%	5%	10%	101%

Source: Written survey of program completers

Figure 4

Follow-up Survey of 1998-1999 Wisconsin Program Completer Status



Source: Written survey of program completers

In the follow-up group, those for whom employment status had changed generally showed improved employment status (see Table 23). Of the 22 people who changed status, 14 went from partial to full-time teaching. Seven changed from substitute teaching to full-time teaching, five from part-time to full-time teaching, and two from not teaching to full time teaching.

Table 23

List of Position Status Changes

Job Status Last year	Job Status This year	Number of program completers reporting change
Substitute	Full Time	7
Full Time	Part Time	2
Part Time	Not Teaching	1
Part Time	Full Time	5
Not Teaching	Full Time	2
Private	Public	1
Not Teaching	Part Time	1
Out of State	In State	1
In State	Out of State	1
Substitute	Full Time Out of State	1

Source: Written survey of program completers

Findings of this investigation were similar to those of a University of Wisconsin System study released in September 1999. The UW system survey of program completers found 73% of respondents were full-time teachers, 4% part-time teachers, and 9% substitute teachers.

Additional data collected in subsequent years from participants in this year's report and future cohorts of program completers may provide essential information regarding supply and demand processes, trends, and solutions.

One limitation to survey data is the “volunteer effect”. Individuals who are not teaching or substitute teaching may be less likely to respond to the survey than those who are fully employed. Therefore, results may be skewed accordingly. Similarly, results may be affected because individuals working outside the state may be less likely to be located or to return surveys. The high return rate lessens the volunteer effect.

Teacher Training Institution Survey

A survey was sent to the deans of education or equivalents at 33 teacher training institutions in Wisconsin. The survey sought to obtain information from the perspective of this important group of supply and demand of educational personnel stakeholders. The general purposes of this survey included the following:

- To identify concerns of teacher training program administrators regarding collection, analysis, and dissemination of supply and demand data
- To identify impediments to supply side adjustments of educational personnel
- To identify and examine initiatives within institutions of higher learning to address supply and demand needs in areas of educational personnel
- To anticipate supply and demand trends and issues

Multiple survey mailings and phone contacts were made to solicit participation. Survey responses were received from 23 Wisconsin teacher-training institutions (70%). Fourteen of 20 private institutions (70%) and 9 of 13 public institutions (69%) participated. Fifteen (65%) institutions responded via mail, 7 (30%) institutions responded via email, and 1 institution (4%) responded via fax. Survey responses were not received from 10 institutions (30%). See Appendix D for listings of responding and non-responding institutions.

Survey materials included a cover letter and a survey containing 4 open-ended questions. Specific information sought from the survey included the following:

- Problems and issues related to collection, analysis, and dissemination of supply and demand data
- Licensure/subject areas targeted for extraordinary efforts to recruit and graduate students
- Methods institutions have employed to address shortages in licensure/subject areas
- Extent to which institutions have attempted to adjust limits on admission in licensure/subject areas based on supply and demand trends
- Impediments to adjusting enrollments for existing programs
- Greatest impediments to creating new programs
- Collaborative approaches being used or considered to expand existing programs or create new ones in areas of shortage

Data analysis was complicated by considerable variability in length, specificity, and clarity across responses. A sincere effort was made to accurately analyze and report these data. The following process was utilized to analyze the data. First, responses to each question were coded as to type of institution, that is, public or private. Second, categories for combining similar responses for each question were identified through individuals working independently, followed by a process of discussions to agree on categories. Third, categorization of individual responses was done through a similar process of individual and collaborative efforts.

The following sections include a discussion of responses to the survey. Each survey question is followed by analyses of data. Analyses include a composite summary of responses, as well as comparisons between private and public institutions when differences were indicated.

What are past and present problems in collection, analysis, and dissemination of supply and demand data?

There appeared to be limited agreement across institutions to this survey question. Eighteen respondents (78%) indicated that there were past and present problems. Five respondents (22%) cited no problems with collection, analysis, or dissemination of supply and demand data.

The 5 respondents that indicated no past or present problems in any of the areas in question were from private institutions. That is, 5 of the 14 respondents from private institutions (36%) reported no problems. In contrast, all respondents from public institutions cited issues and problems.

Numerous problems in data collection were cited. Most frequently cited were problems with the validity of data collected. Definitions of terms, selection of variables, and relevance of variables were mentioned. Inadequate and/or outdated software frequently were identified as problems for data collection.

Public and private institution respondents agreed that the validity of data collected was problematic. Software was a problem for private institutions, in that, 29% of these institutions cited this area of concern. In contrast, no public institutions indicated software as an issue in data collection.

Two problems frequently were cited in the analysis of supply and demand data. These were dissatisfaction with clarity of the final report and disagreement with the interpretation of results published in the report. A number of respondents provided detailed critiques of last year's report. Constructive suggestions for future supply and demand reports included:

- Further clarification of definitions
- Forceful statements of limitations of the data collected, subsequent analyses, and final conclusions
- Additional explanations regarding perceived contradictory data included in tables and the narrative

There appeared to be agreement between private and public institution responses regarding problems with analyses. Both identified this as an area of concern.

Few respondents cited problems with dissemination of supply and demand data. Respondents from 3 institutions (13%) cited timing for release of the Wisconsin supply and demand report as problematic; 11% of public institutions and 15% of private institutions reported this as a problem.

Responses to the preceding question can be used to improve future supply and demand studies. Recommendations made by administrators in institutions of higher education that have teacher training programs are a beneficial addition to this year's study.

Given a shortage or oversupply in a particular licensure/subject area and a desire to make appropriate adjustments in teacher training programs, what impediments limit or prevent change?

Teacher training institutions face many impediments that limit or prevent changes to programs when a shortage or oversupply is identified in a particular licensure/subject area. Frequently cited impediments include:

- Resource limitations
- Bureaucratic hurdles
- Time demands
- Students' resistance

Respondents most frequently cited lack of resources as an impediment to changing teacher training programs to address market conditions. Ten respondents (44%) indicated that resources were limited, therefore, efforts to implement program changes were hindered. Limited resources cited in responses included financial as well as human resources. A limitation very clearly delineated in the area of human resources was the availability of qualified instructors to staff positions generated by program changes.

The issue of hiring qualified instructors was relatively more important for private institutions than public. This was demonstrated by 43% of private responses citing human resources as an impediment compared to 33% of public responses. These data indicate difficulties in hiring qualified instructors as a primary impediment to program change in response to supply and demand conditions.

A total of 7 respondents (30%) indicated that bureaucratic hurdles exist that impede efforts to address fluctuations in supply and demand of educational personnel. Responses included discussions that cited limits, mandates, and controls imposed by the state, and particularly, DPI.

A comparison of responses indicated relative agreement between public and private institutions. Analysis indicated that 33% of public and 29% of private institutions cited bureaucratic impediments to change.

Seven of 23 responses (30%) indicated lack of time was an impediment to making program changes. Respondents noted considerable time was needed for activities related to state approval of new licensing programs, processes for hiring qualified staff, and development or modification of licensure / subject programs.

Data indicate time demands may be a greater impediment to program change in public institutions compared to private. Six of nine responses from public institutions (66%) cited time as an impediment compared to 1 of 14 private institutions (7%).

Students may be resistant to program modifications. Approximately 17% of respondents suggested students may not be receptive to changes in teacher training program offerings. This impediment was cited by 33% of public institutions, and 7% of private institutions.

Numerous other impediments were mentioned on individual responses. A partial listing follows:

- Conflicts of interest
- Political dynamics
- Unreliable supply and demand data
- Fluid job market

In summary, there are common challenges that heads of education departments in both private and public institutions must face when they seek to make programmatic changes to address supply and demand conditions. Difficulties identified through this survey included bureaucratic structures, limitations of financial and human resources, lack of available time, and student resistance.

What efforts have been or are being made in response to supply and demand conditions and trends by your teacher training programs?

Although there are numerous impediments in teacher training programs to making changes intended to address supply and demand conditions, efforts have been made. Twenty-one of 23 respondents (91%) reported efforts to respond to fluid supply and demand conditions. Efforts were grouped into 3 categories. One category identified was development of new programs and modifications of existing ones. This category included development of alternative licensure/subject programs. The second category, use of enrollment caps, included efforts to decrease or increase the number of students

admitted to various licensure/subject programs. The third category, collaborative activities between school districts, universities, and state entities, included efforts between various stakeholders to act in a concerted manner to recruit and train educational personnel in targeted licensure/subject areas.

Fourteen respondents (61%) reported efforts to develop new programs or make substantive modifications to existing programs. New programs included development of alternative licensure/subject routes, creation of new certification offerings, and formulation of new post-baccalaureate programs. One modification mentioned was compression of core classes to expedite matriculation through licensure/subject programs. In addition, 13% of respondents reported course schedule modifications such as evening and weekend classes to benefit nontraditional students entering teacher licensure/subject programs. Programmatic approaches to addressing supply and demand conditions were more likely to be reported by private institutions than public. Ten respondents (71%) from private institutions reported this approach compared to 4 (44%) public institutions.

Institutions reported they manipulated program enrollment caps in an effort to address supply and demand conditions. Nearly half (48%) of the institutions stated that they increased or decreased enrollment. Public institutions were more likely to report the use of enrollment caps to respond to employment conditions than private institutions. Nearly 89% of respondents from public institutions indicated enrollment caps were used to regulate student entry into teacher training programs based on employment trends, whereas one-third of respondents from private institutions reported similar use of enrollment caps.

Departments of education reported that collaborative efforts were utilized to respond to employment trends. A total of 8 institutions (35%) reported collaborative

activities. Activities included collaboration with other institutions of higher learning (22%), school districts (13%), and state agencies (9%). Public institutions were reported to engage in collaborative activities to a greater degree than private institutions. Over half of public respondents (56%) reported collaboration with other universities, school districts, or state agencies. In contrast, 21% of private institutions reported such collaborative activities.

In summary, various efforts have been made by teacher training institutions to address supply and demand conditions and trends. Both public and private institutions reportedly created and modified programs, adjusted enrollment caps, and engaged in collaborative activities. In contrast to private institutions, public institutions were more likely to adjust enrollment caps for pre-existing programs and engage in collaborations with others. Private institutions reportedly were more likely than public institutions to create and modify programs as responses to supply and demand conditions, as well as to engage in collaborative activities with other universities, school districts, and state agencies.

What factors will have significant effects on the supply and demand of personnel in the future?

Factors cited as having significant impact on the future supply and demand of educational personnel were numerous and diverse. The most frequently cited factors included changes in teacher preparation programs / processes (16, 70%), fluctuations in teacher pay (16, 70%), and perceptions of the general public regarding the profession and their political implications (11, 48%). In addition, there were many other factors mentioned by only 1 or 2 respondents. For example, a partial listing of other factors

mentioned includes: job conditions, retirement, location (urban/rural), national certification, unions, attrition in special education, and declining enrollments.

There were few noteworthy differences between private and public institution responses. Changes in teacher preparation, fluctuations in teacher pay, and perceptions of the general public and their political implications were the 3 most frequently cited factors for both. However, private institutions cited lack of qualified professors (2, 14%) as a significant factor, where as no public institution cited this factor. In addition, it is important to note that there was considerable variability in factors cited by only 1 or 2 respondents. This may illustrate the enormous complexity of supply and demand dynamics.

Employment Outlook Across Selected License/Subject Areas

The following section includes ratings of employment outlook across selected license/subject areas. Outlooks were based on ratings of supply provided by Wisconsin school districts. Rating of supply was chosen as the determinant of outlook for three reasons. One, the correlation between ratings of supply and ratio of applicants to vacancies was 0.74. Two, ratings of supply may be a more precise measure of demand because the ratio of applicants to vacancies may inflate the supply of available teachers since individuals frequently apply to more than one vacancy. Three, this measure provides a quantitative approach to rating employment outlooks. Furthermore, additional data are included near the end of this section to enable readers to generate their own assessment of outlooks for employment across areas.

Outlooks were determined using the following procedure. First, the overall mean of supply ratings was calculated (1.873). Second, the standard deviation was calculated for the data set (.448). Third, an initial interval of .5 standard deviation above and below the mean was established. Supply ratings within this interval were rated as 'average employment outlook.' Additional intervals were established in .5 standard deviation increments and assigned an employment outlook category. Fourth, supply ratings for licensure/subject areas were categorized. These categories are based on comparisons among the various certification categories for Wisconsin teachers. Thus, "demand above average" means teachers in these certification areas have greater demand than those in the average or below average categories. Table 24 is a listing of categories, criteria, and licensure/subject area.

Table 24

Categories and Criteria for Employment Outlook

Category	Criteria	Licensure/Subject Areas
Demand Well Above Average	Below 1.424	emotional behavioral disability, technology education, visual impairment, cognitive disability, chemistry, deaf/hearing impairment, family/consumer education, and physics
Demand Above Average	1.424 to 1.648	library/media, foreign language, mathematics, ESL/bilingual, cross-categorical special education, learning disability, business education, agriculture, speech/language pathologist, and director of special education
Demand Average	1.649 to 2.097	superintendent, reading specialist, early childhood special education, school psychologist, biology, earth science, reading teacher, general science, physical/occupational therapist, curriculum director, school social worker, journalism/speech, music, high school principal, school nurse
Demand Below Average	2.098 to 2.322	school counselor, and middle school principal
Demand Well Below Average	Above 2.322	elementary principal, art, English/language arts, early childhood/kindergarten, physical education, social studies, and elementary

There is reason for disagreement in determination of the best method to judge employment outlook across licensure / subject areas. Table 25 includes a summary of data that may assist the reader in formulating employment outlooks using different measures. Data from the following measures are included: (1) rating of supply as indicated by school districts, (2) ratio of applicants per vacancy, and (3) number of emergency licences hired to fill 2000-2001 positions school districts reported to DPI. In general, supply and demand inferences for license / subject areas were consistent across the data sets.

Table 25

Summary of employment outlook data

Certification	Rating of Supply	Ratio of Apps to Vacancies	New Emergency Hires
Emotional Behav. Dis.	1.16	2.66	430
Technology Ed.	1.18	4.54	74
Visual Imp.	1.25	1.5	0
Cognitive Dis.	1.29	3.83	169
Chemistry	1.30	7.51	NA
Deaf/Hearing Imp.	1.35	3	7
Family/Consumer Ed.	1.38	3.91	9
Physics	1.39	5.03	NA
Library/Media	1.54	3.31	90
Foreign Language	1.55	5.33	88
Mathematics	1.55	5.69	94
ESL/Bilingual	1.58	3.02	223
Cross Categorical	1.59	4.17	NA
Learning Dis.	1.59	4.48	373
Business Ed.	1.61	6.01	33
Agriculture	1.61	5.3	3
Speech/Language Path.	1.62	5.17	25
Director of Special Ed.	1.63	6.1	NA
Superintendent	1.67	13.68	NA
Reading Specialist	1.68	7.3	11
Early Child. Spec. Ed.	1.71	5.62	64
School Psychologist	1.74	5.08	6
Biology	1.76	9.11	NA
Earth Science	1.80	7.02	NA
Reading Teacher	1.83	6.48	140
General Science	1.88	7.57	119
Physical Ther./Occ. Ther.	1.93	2.65	NA
Curriculum Director	1.95	9.21	NA
School Social Worker	1.95	9.17	6
Journalism/Speech	1.96	5.58	NA
Music	1.99	6.73	61
High School Principal	1.99	13.78	NA
School Nurse	2.04	5.83	NA
School Counselor	2.20	8.93	17
Middle School Principal	2.23	19.34	NA
Elementary Principal	2.34	16.21	NA
Art	2.42	9.28	11
English/Language Arts	2.44	10.69	NA
Early Child./Kindergarten	2.59	15.34	NA
Physical Ed.	2.77	15.71	40
Social Studies	3.05	19.82	36
Elementary	3.16	19.23	267
Total			2396

NA = No data available

Various sources

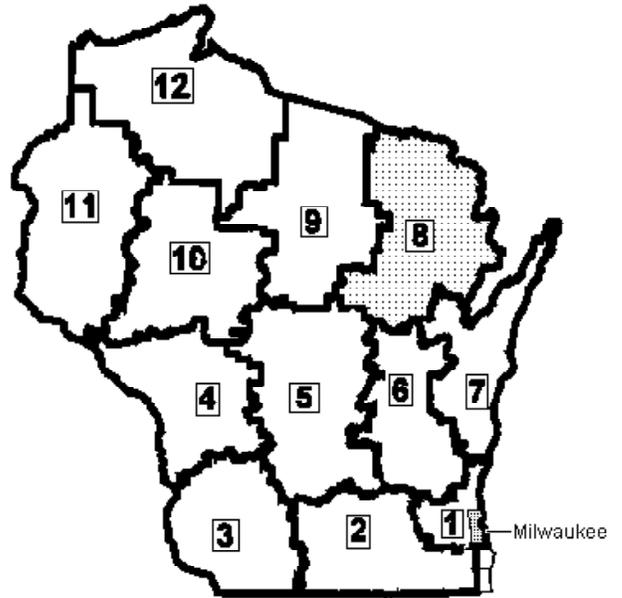
Key	 Demand Well Above Average
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	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
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Elementary Education

Elementary

Outlook: Well below average

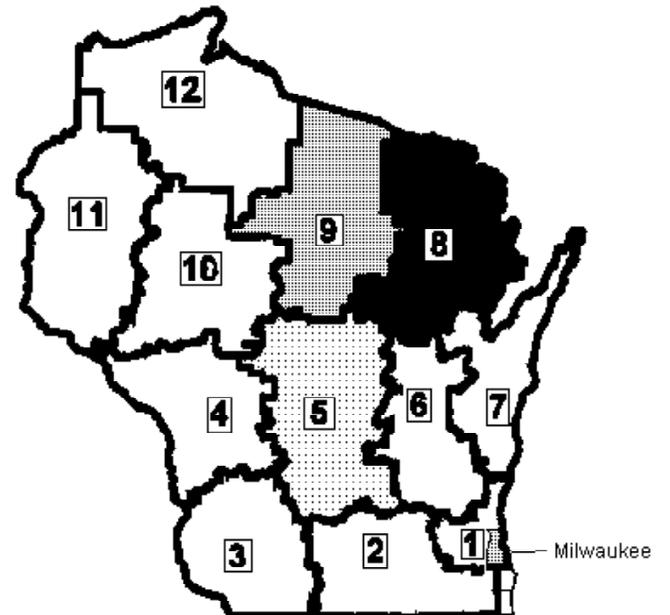
- ♣ School district supply rating was in the normal supply range
- ♣ Ratio of applicants to vacancies was 19.23
- ♣ Number of emergency hires school districts reported to DPI was 267



Pre-kindergarten/kindergarten

Outlook: Well below average

- ♣ School district supply rating was in the normal supply range
- ♣ Ratio of applicants to vacancies was 15.34

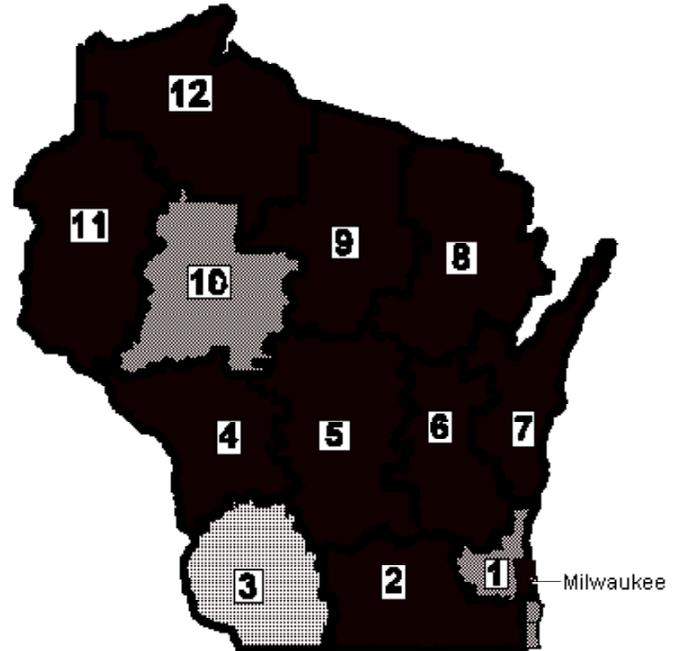


Special education

Cognitive disability

Outlook: Well above average

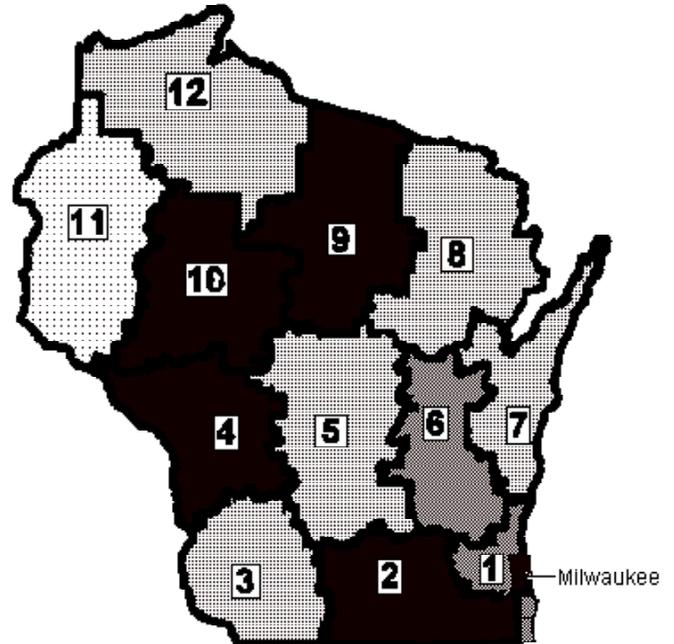
- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 3.83
- ♣ Number of emergency hires school districts reported to DPI was 169



Cross categorical

Outlook: Above average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 4.17

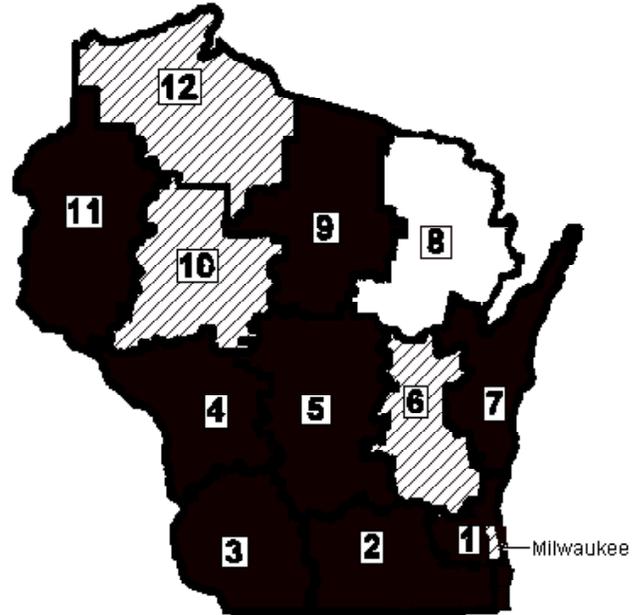


Key	 Demand Well Above Average
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	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
	 No data

Deaf/hearing impairment

Outlook: Well above average

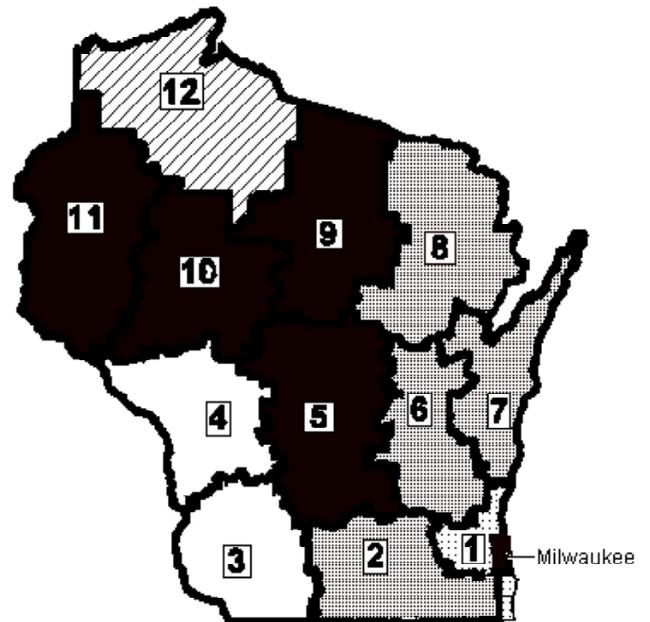
- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 3.0
- ♣ Number of emergency hires school districts reported to DPI was 7



Early childhood special education

Outlook: Average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.62
- ♣ Number of emergency hires school districts reported to DPI was 64

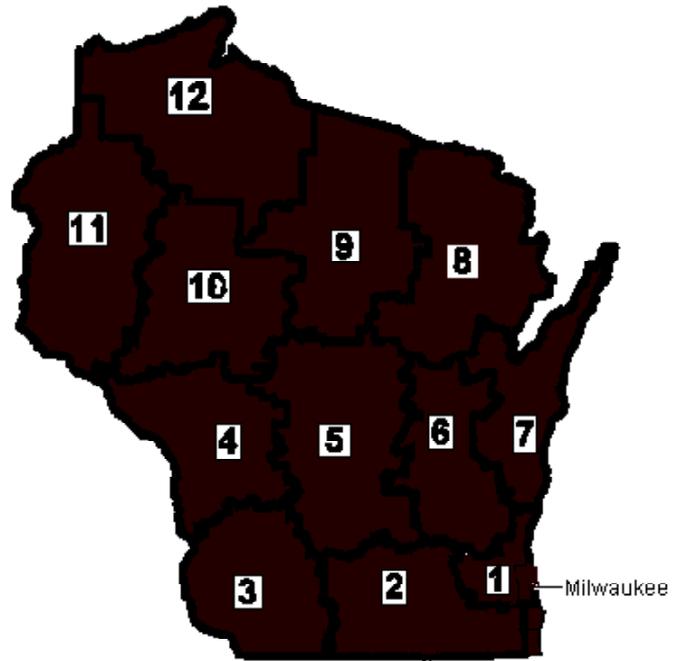


Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
	 No data

Emotional behavioral disability

Outlook: Well above average

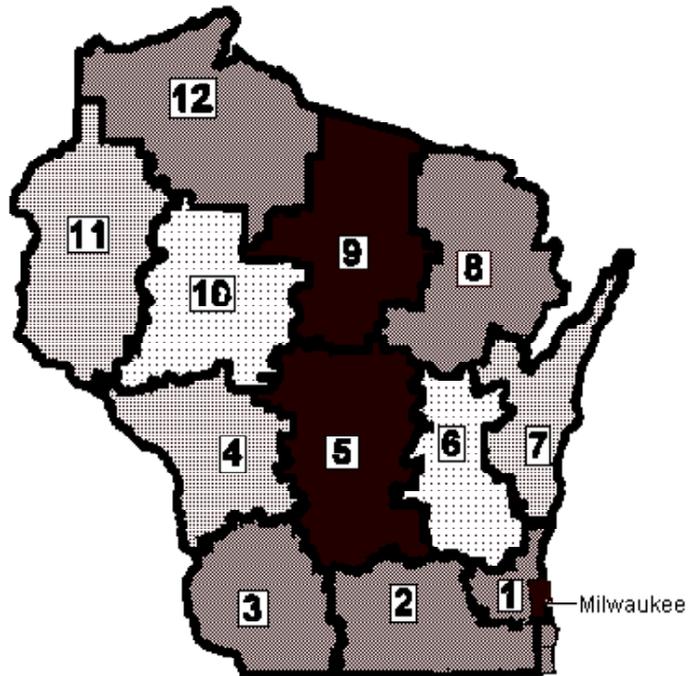
- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 2.66
- ♣ Number of emergency hires school districts reported to DPI was 430



Learning disability

Outlook: Above average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 4.48

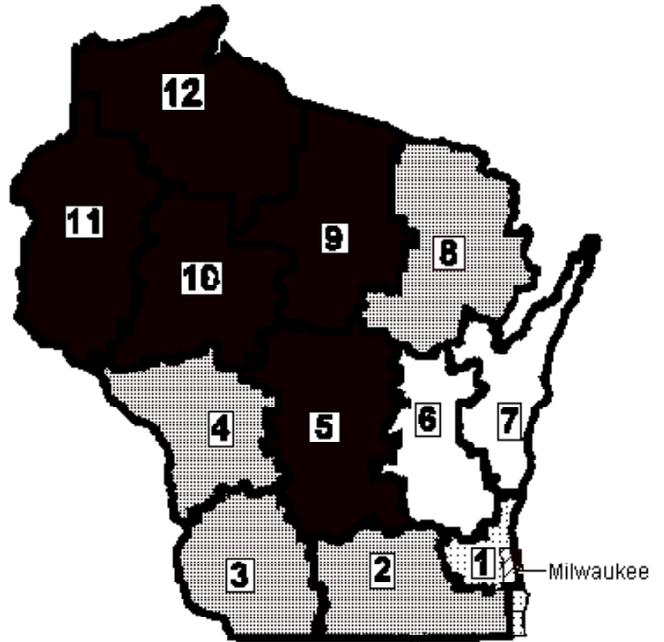


Key	 Demand Well Above Average
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	 No data

Physical therapist/Occupational therapist

Outlook: Average

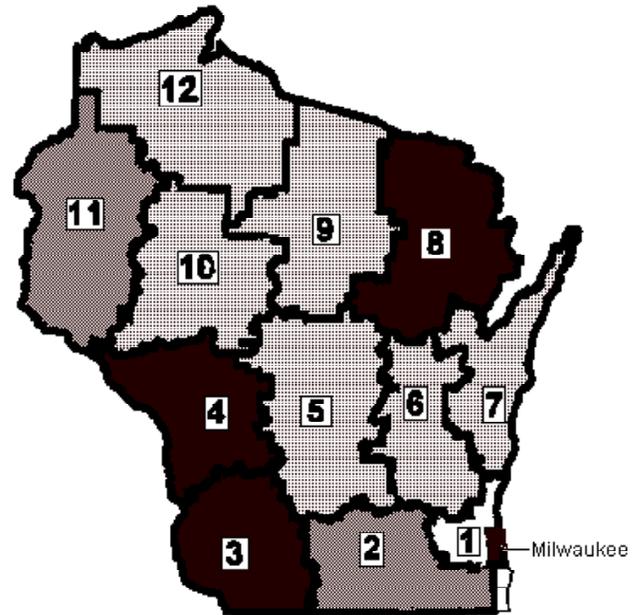
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants vacancies was 2.65



Speech and language pathologist

Outlook: Above average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.17
- ♣ Number of emergency hires school districts reported to DPI was 25

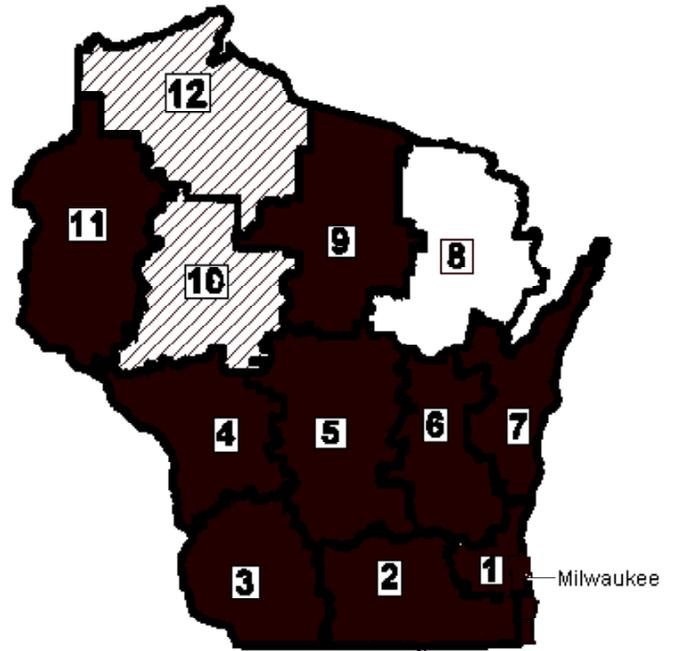


Key	■	Demand Well Above Average
	▒	Demand Above Average
	■	Demand Average
	▒	Demand Below Average
	□	Demand Well Below Average
	□	No data

Vision impairment

Outlook: Well above average

- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 1.5
- ♣ Number of emergency hires school districts reported to DPI was 0

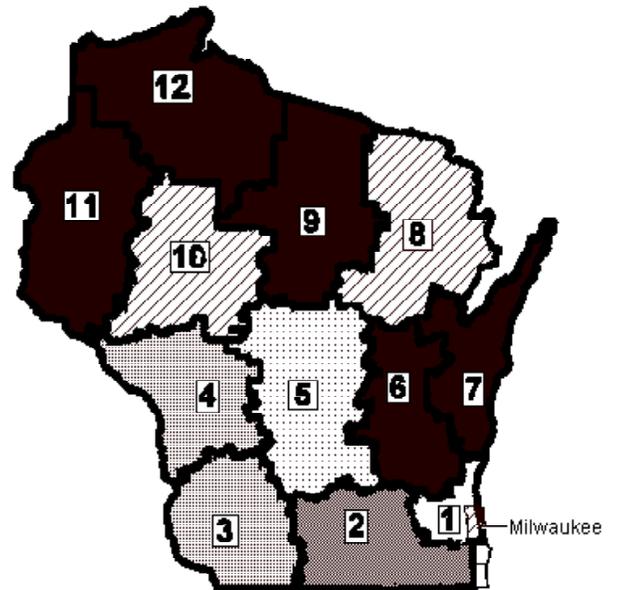


Secondary/Specialized Fields

Agriculture

Outlook: Above average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.3
- ♣ Number of emergency hires school districts reported to DPI was 3

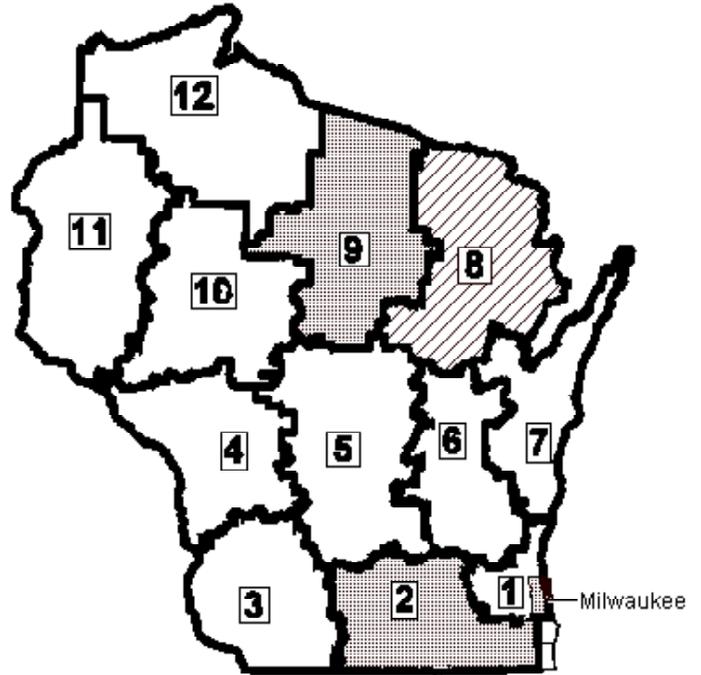


Key	 Demand Well Above Average
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Art

Outlook: Well below average

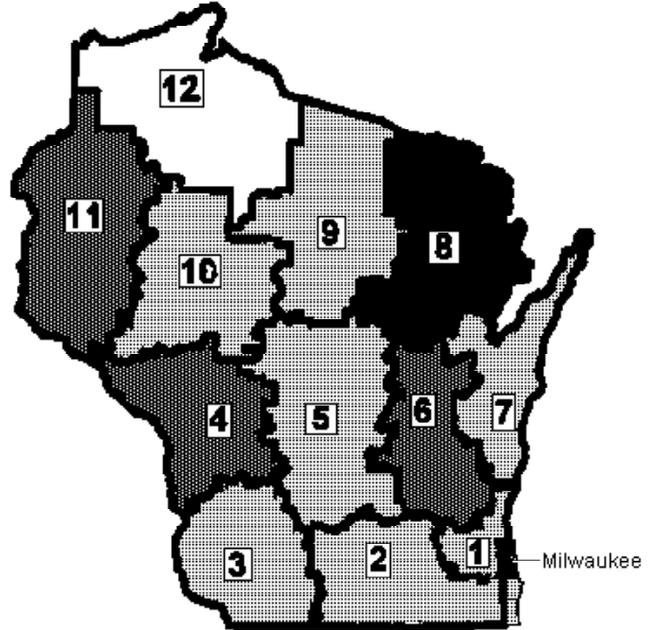
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 9.28
- ♣ Number of emergency hires school districts reported to DPI was 11



Biology

Outlook: Average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 9.11

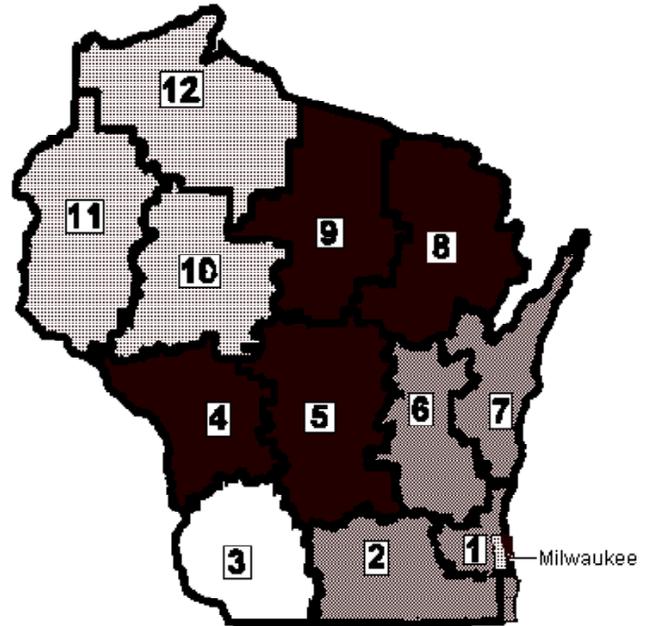


Key	Demand Well Above Average
	Demand Above Average
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	No data

Business education

Outlook: Above average

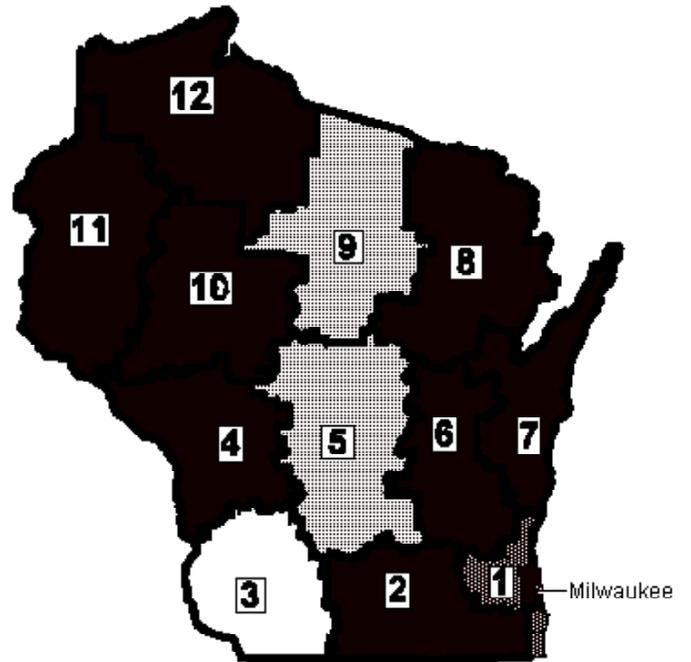
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 6.01
- ♣ Number of emergency hires school districts reported to DPI was 33



Chemistry

Outlook: Well above average

- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 7.51

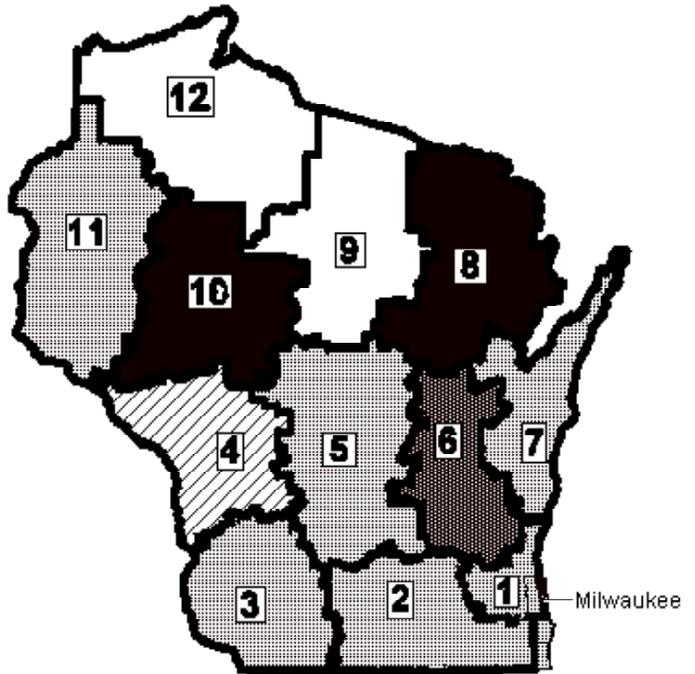


Key	■	Demand Well Above Average
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	░	Demand Average
	░	Demand Below Average
	□	Demand Well Below Average
	◻	No data

Earth science

Outlook: Average

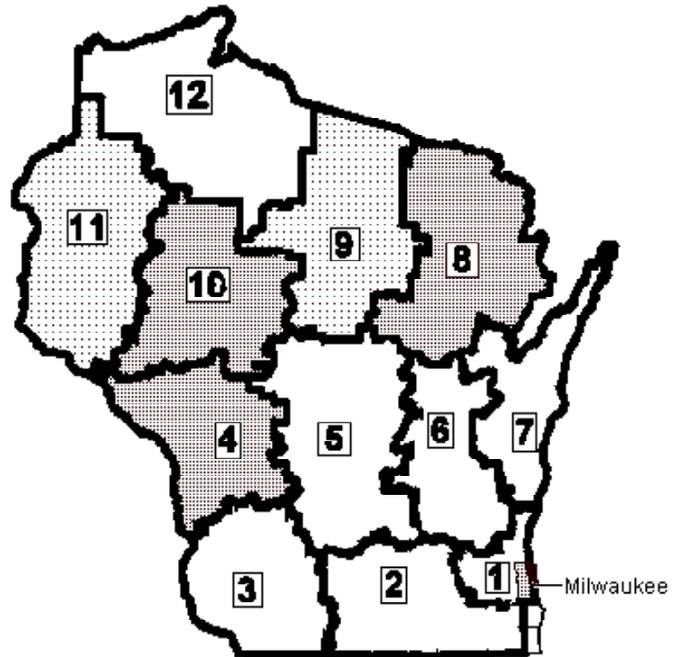
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 7.02



English/Language arts

Outlook: Well below average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 10.69

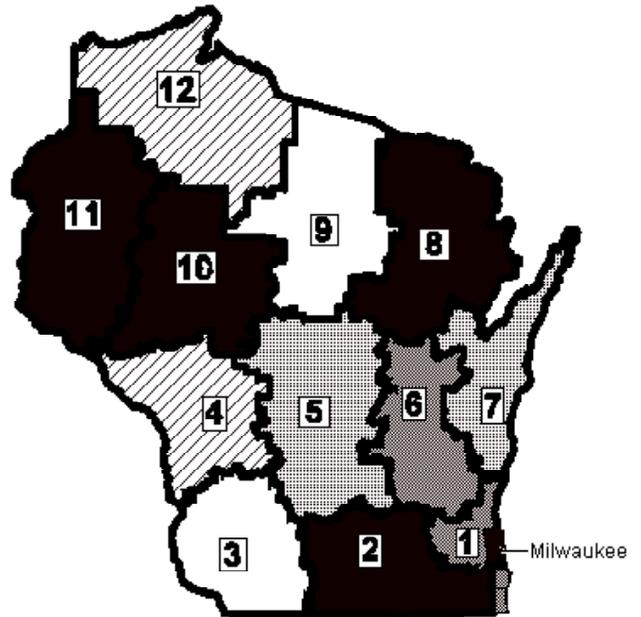


Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Below Average
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	 No data

ESL/Bilingual

Outlook: Above average

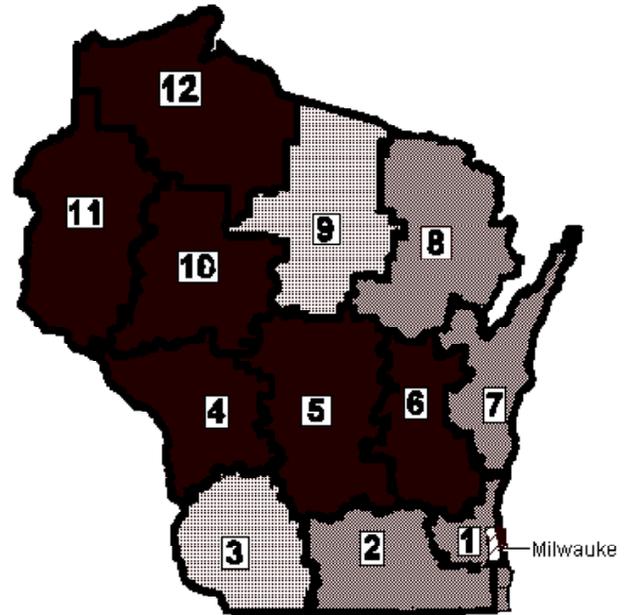
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 3.02
- ♣ Number of emergency hires school districts reported to DPI was 223



Family and consumer education

Outlook: Well above average

- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 3.91
- ♣ Number of emergency hires school districts reported to DPI was 9

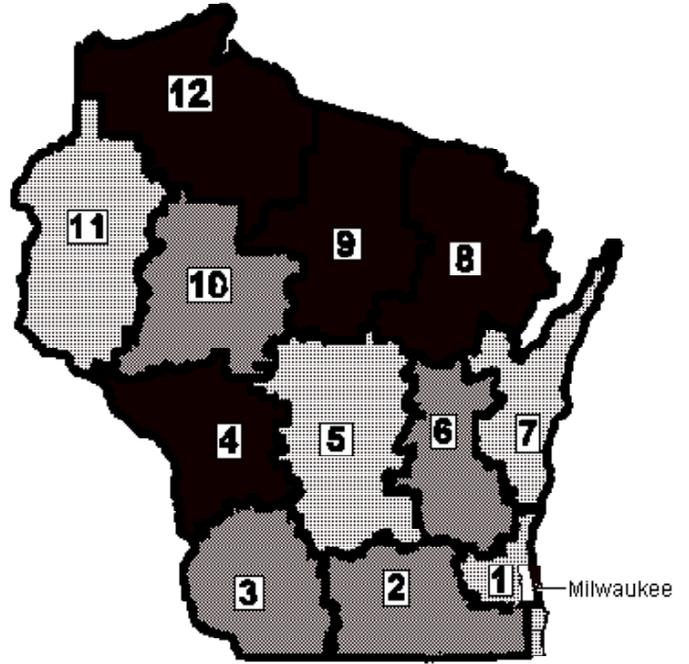


Key	 Demand Well Above Average
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	 Demand Below Average
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	 No data

Foreign language

Outlook: Above average

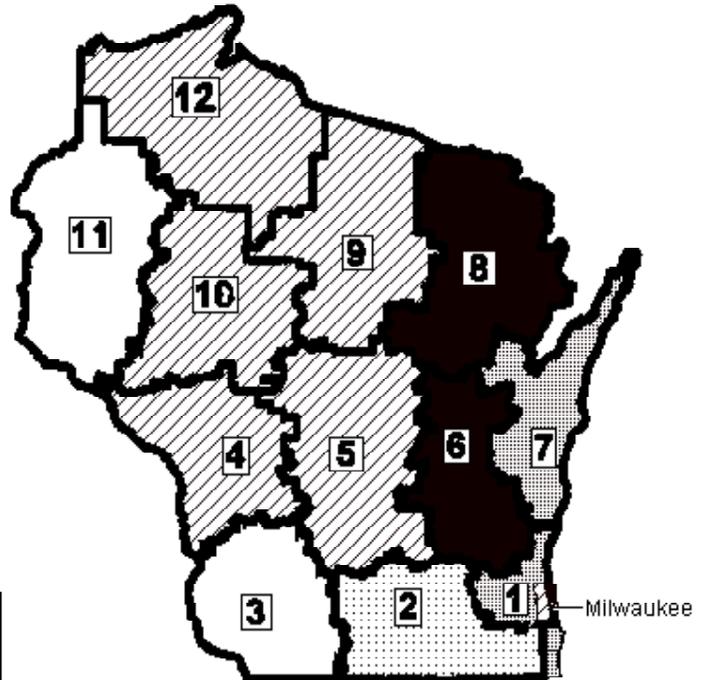
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.33
- ♣ Number of emergency hires school districts reported to DPI was 88



Journalism/Speech

Outlook: Average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.58

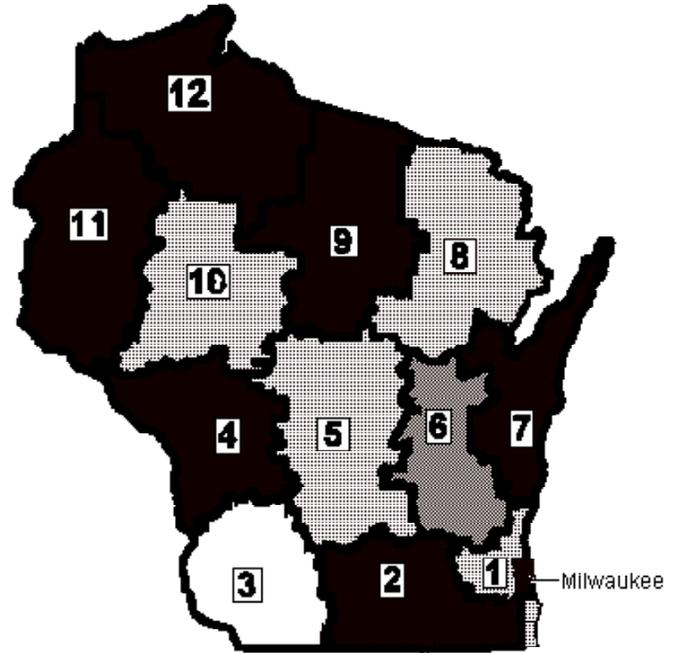


Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Well Below Average
	 No data

Library/Media

Outlook: Above average

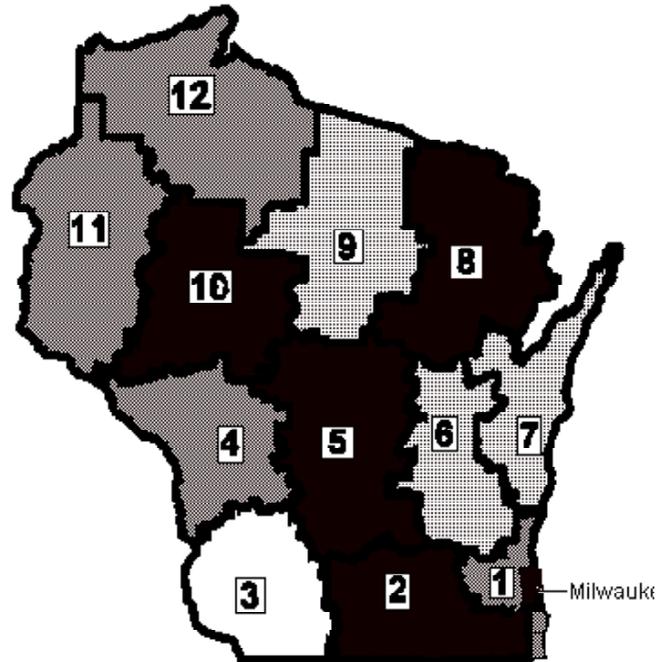
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 3.31
- ♣ Number of emergency hires school districts reported to DPI was 90



Mathematics

Outlook: Above average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.69
- ♣ Number of emergency hires school districts reported to DPI was 94

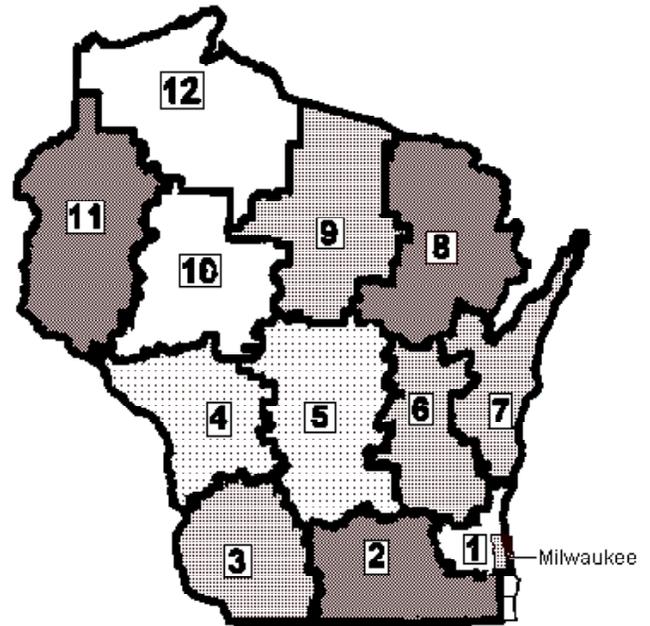


Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
	 No data

Music

Outlook: Average

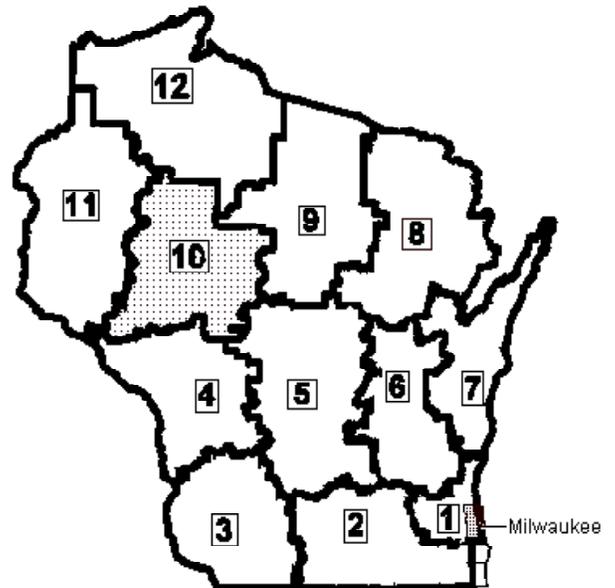
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 6.73
- ♣ Number of emergency hires school districts reported to DPI was 61



Physical education

Outlook: Well below average

- ♣ School district supply rating was in the normal supply range
- ♣ Ratio of applicants to vacancies was 15.71
- ♣ Number of emergency hires school districts reported to DPI was 40

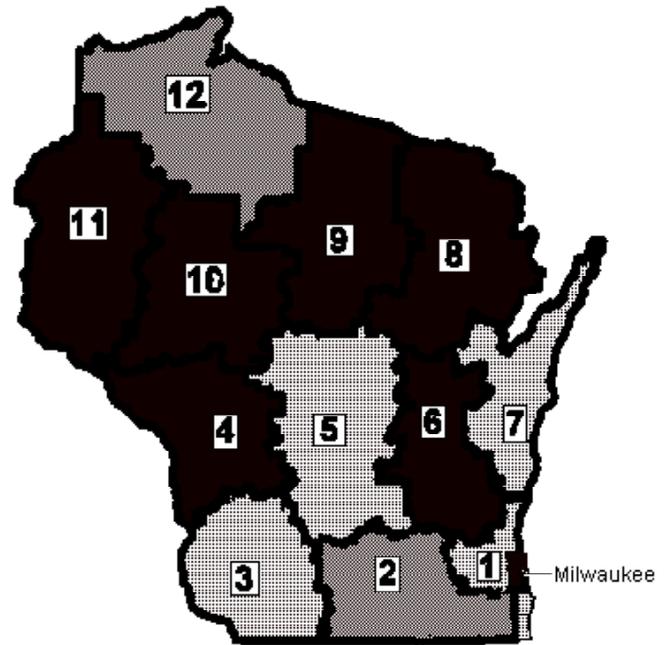


Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
	 No data

Physics

Outlook: Well above average

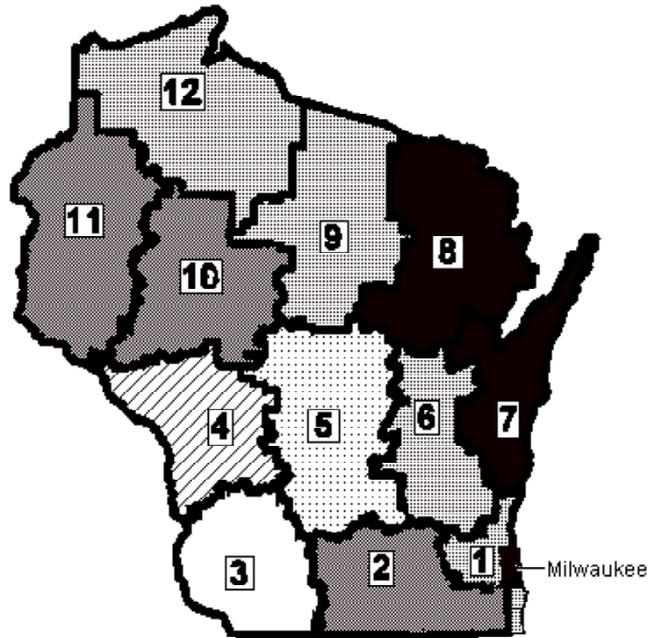
- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 5.03



Reading specialist

Outlook: Average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 7.3

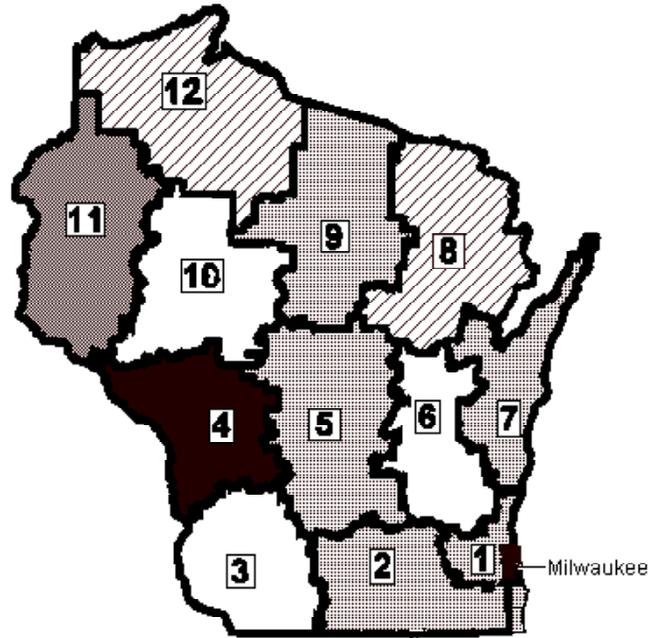


Key	■	Demand Well Above Average
	▣	Demand Above Average
	▤	Demand Average
	▥	Demand Below Average
	□	Demand Well Below Average
	◻	No data

Reading teacher

Outlook: Average

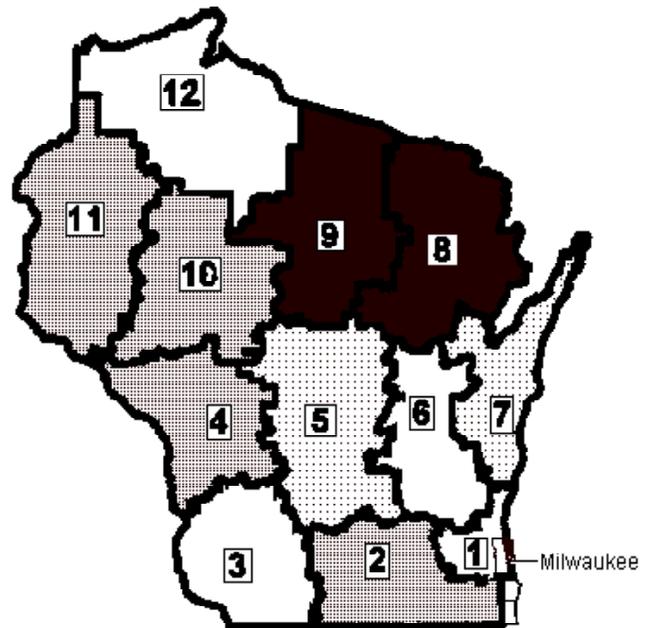
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 6.48



School counselor

Outlook: Below Average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 8.93
- ♣ Number of emergency hires school districts reported to DPI was 17

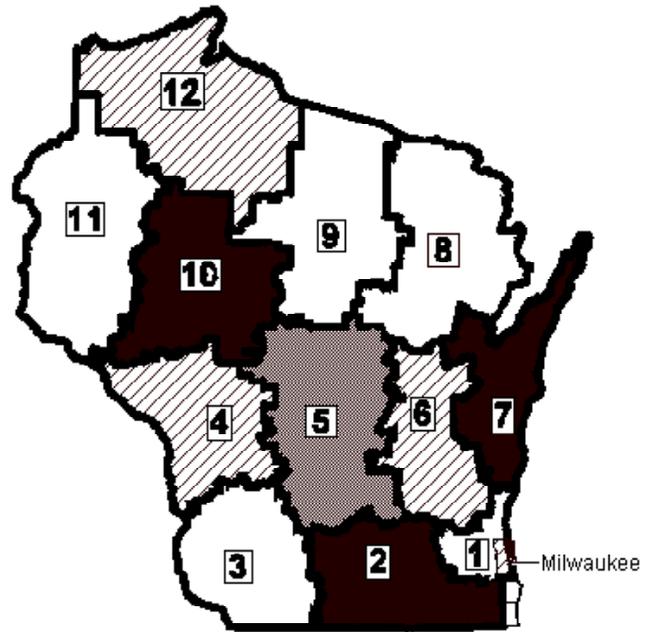


Key	■ Demand Well Above Average
	■ Demand Above Average
	□ Demand Average
	□ Demand Below Average
	□ Demand Well Below Average
	□ No data

School nurse

Outlook: Average

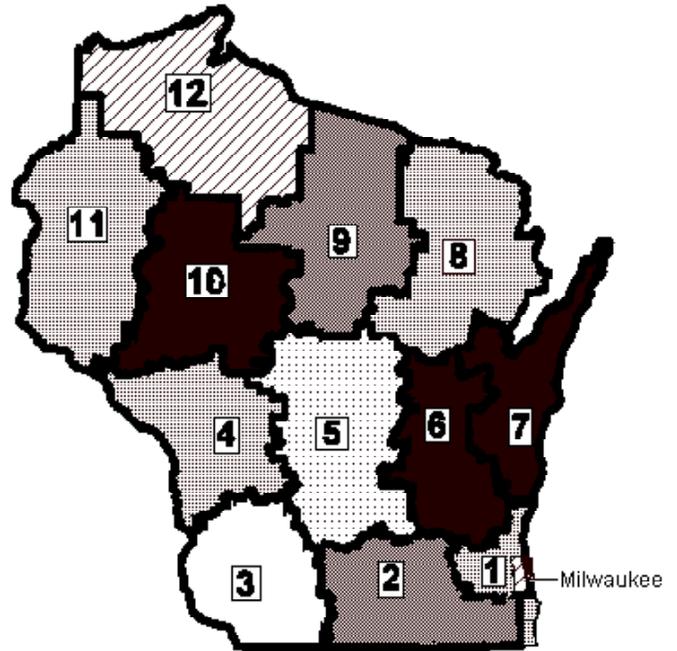
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.83



School psychologist

Outlook: Average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 5.08
- ♣ Number of emergency hires school districts reported to DPI was 6

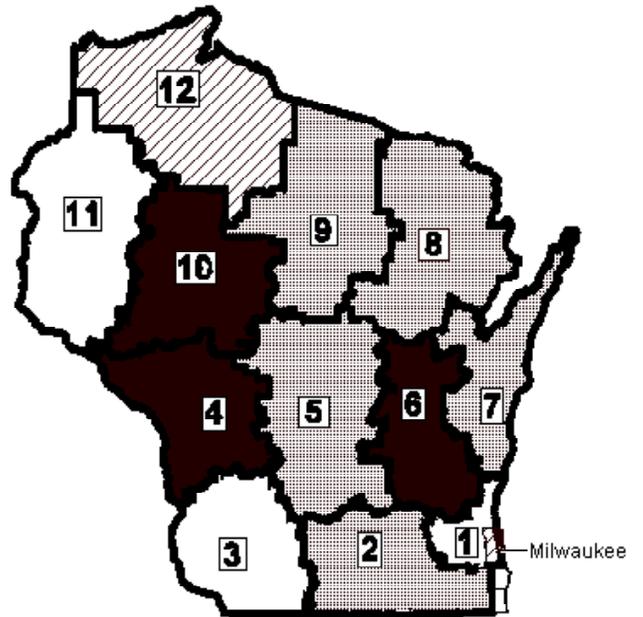


Key	■ Demand Well Above Average
	▣ Demand Above Average
	□ Demand Average
	▤ Demand Below Average
	□ Demand Well Below Average
	▨ No data

School social worker

Outlook: Average

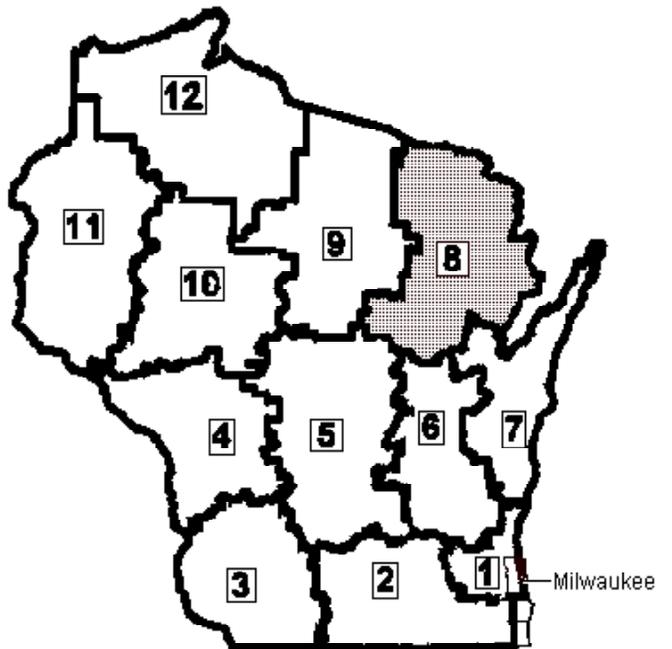
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 9.17
- ♣ Number of emergency hires school districts reported to DPI was 6



Social studies

Outlook: Well below average

- ♣ School district supply rating was in the normal supply range
- ♣ Ratio of applicants to vacancies was 19.82
- ♣ Number of emergency hires school districts reported to DPI was 36

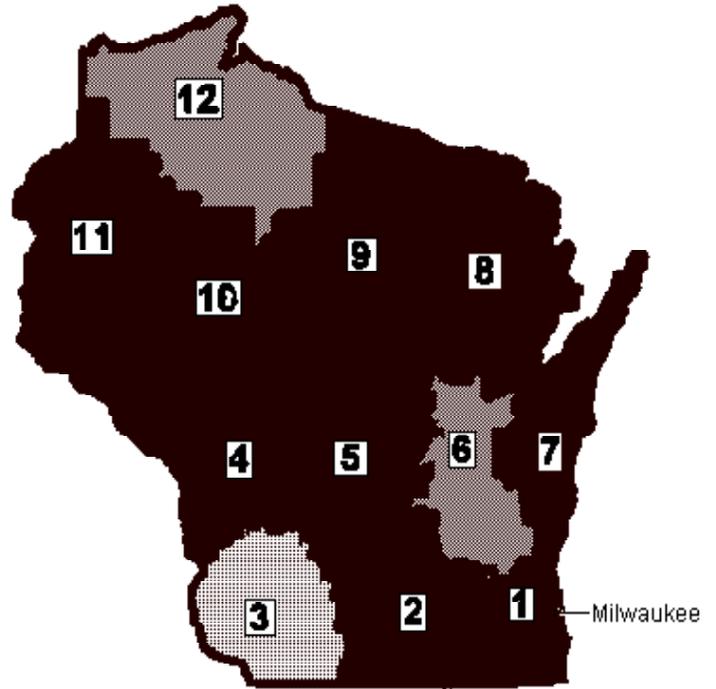


Key	■	Demand Well Above Average
	▣	Demand Above Average
	▤	Demand Average
	▥	Demand Below Average
	□	Demand Well Below Average
	▧	No data

Technology education

Outlook: Well above average

- ♣ School district supply rating was in the extreme shortage range
- ♣ Ratio of applicants to vacancies was 4.54
- ♣ Number of emergency hires school districts reported to DPI was 74



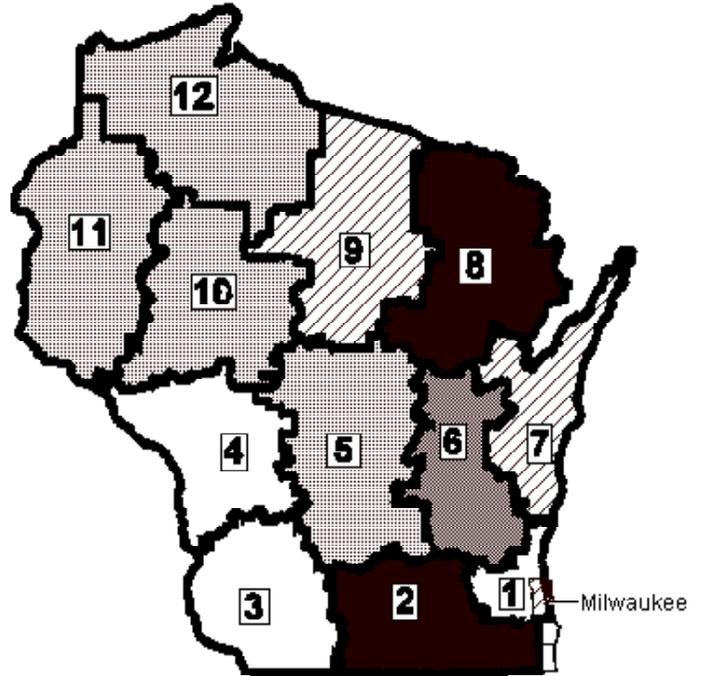
Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
	 No data

Administrators

Curriculum director

Outlook: Average

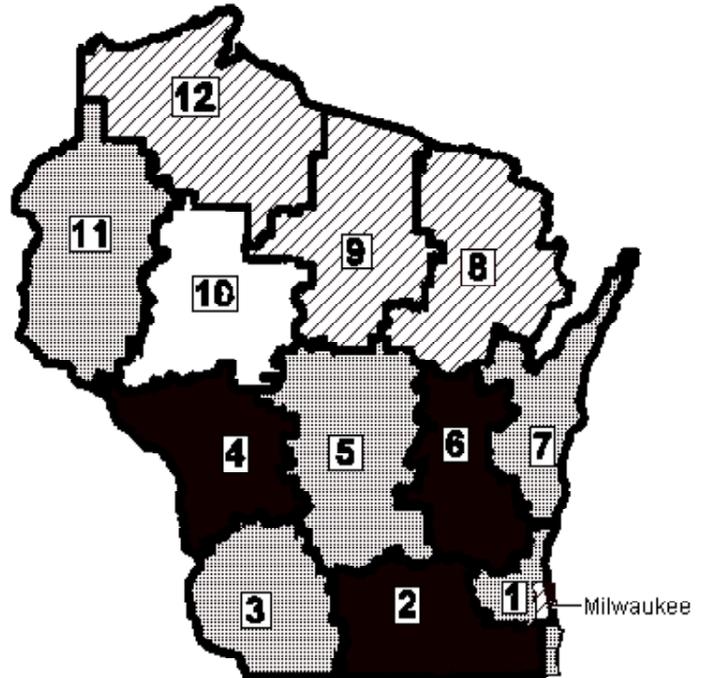
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 9.21



Director of special education

Outlook: Above average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 6.1

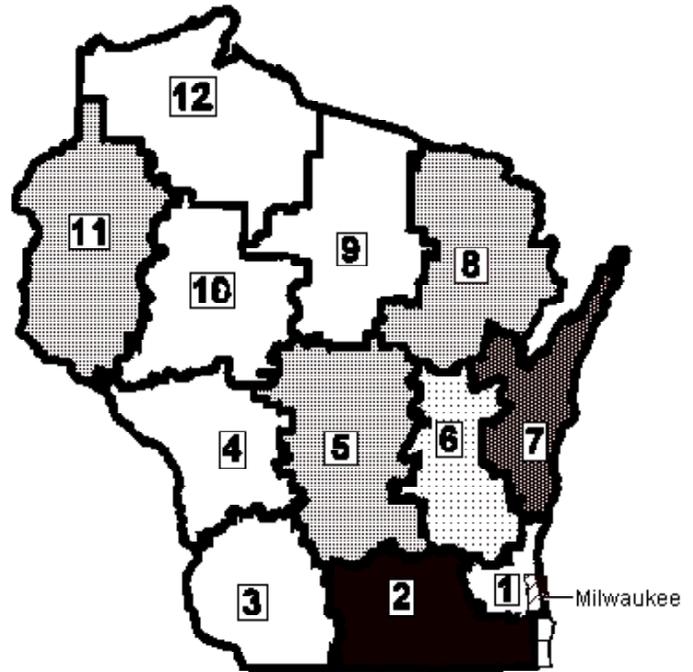


Key		Demand Well Above Average
		Demand Above Average
		Demand Average
		Demand Below Average
		Demand Well Below Average
		No data

Elementary principal

Outlook: Well below average

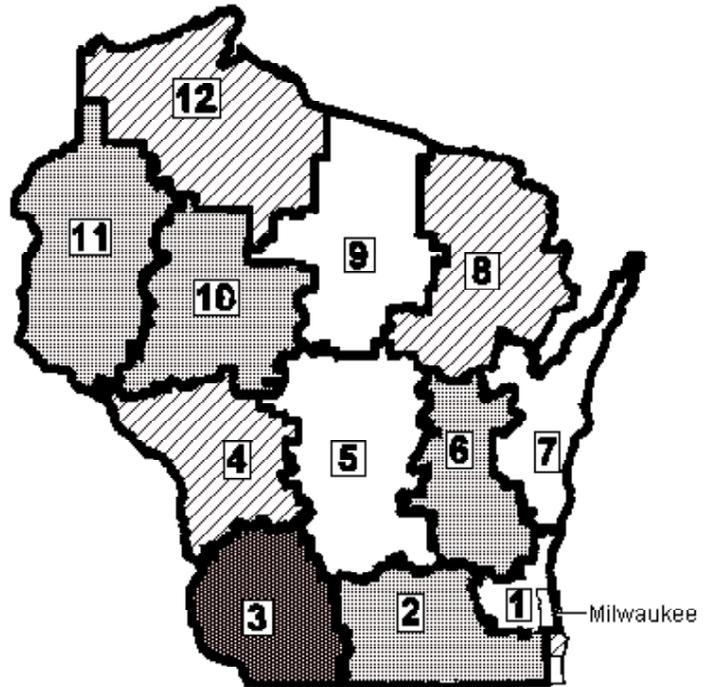
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 16.21



Middle school principal

Outlook: Below average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 19.34

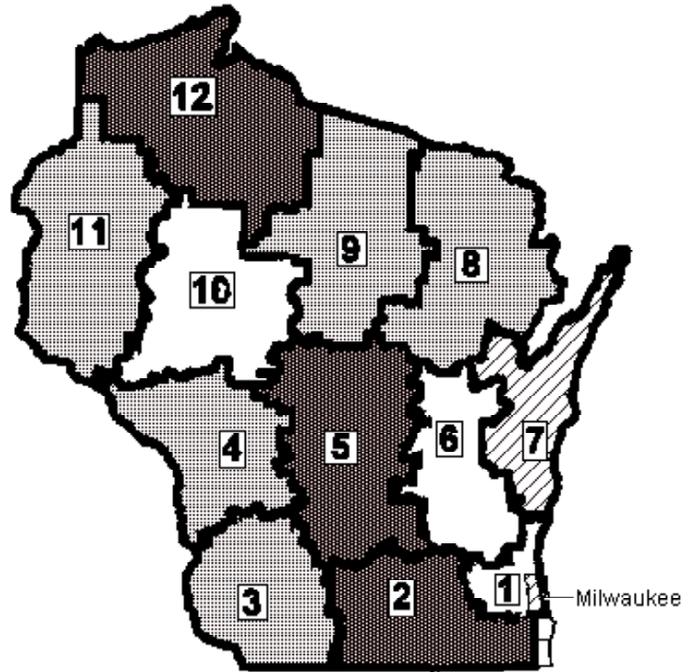


Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
	 No data

High school principal

Outlook: Average

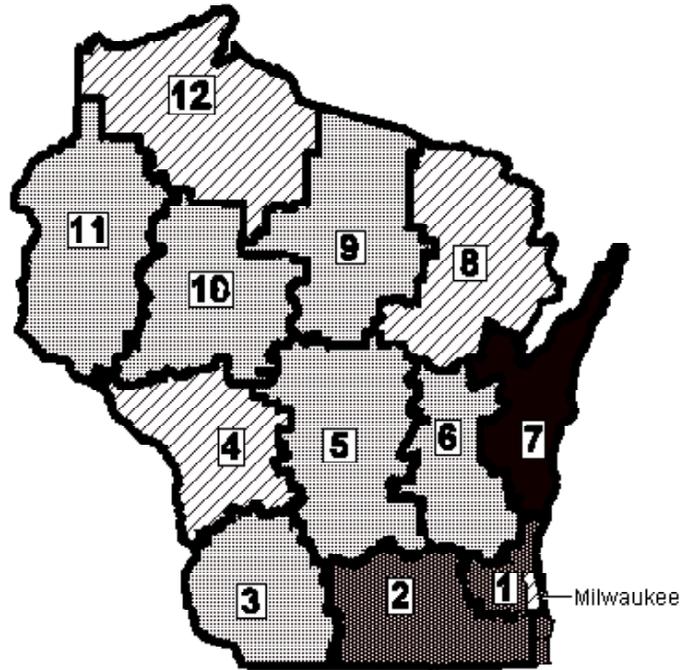
- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 13.78



Superintendent

Outlook: Average

- ♣ School district supply rating was in the slight shortage range
- ♣ Ratio of applicants to vacancies was 13.6.



Key	 Demand Well Above Average
	 Demand Above Average
	 Demand Average
	 Demand Below Average
	 Demand Well Below Average
	 No data

Appendix A

Educator Supply and Demand Rating Scale for School District Analysis

Name of District _____ Administrator- _____
 Phone Number- _____

A Licensure/Subject Areas	B Number of Vacancies	C Number of Applicants	D F=Full—time P=Parttime	E Rating of Supply	F 5-year Projection
Elementary	X	X	X	X	X
Early C/Kindergar					
Elementary					
Other					
Mid/High School	X	X	X	X	X
Biology					
Chemistry					
Earth Science					
Eng./Lang. Arts					
General Science					
Journalism/Speech					
Mathematics					
Physics					
Social Studies					
Other					
Special Fields	X	X	X	X	X
Agriculture					
Art					
Business Ed					
Fam/Consum Ed.					
Foreign Language					
Music					
Phys. Ed.					
Technology Ed.					
Other					
Special Education	X	X	X	X	X
Cognitive Disabil.					
Cross Categorical					
Deaf/Hear Impair.					
Early Child: EEN					
Emotional Dis.					
Learning Disabil.					
Speech/Lang. Path					
Visually Imp.					
PT/OT					
Other					
Specialized Personnel	X	X	X	X	X
ESL/Bilingual					
Library/Media					
Reading Specialist					
Reading Teacher					
Sch. Counselor					
Sch. Nurse					
Sch. Psychologist.					
Sch. Social Work.					
Other					
Administrators	X	X	X	X	X
Curriculum Dir.					
Dir. of Spec. Ed.					
Elem. Principal					
Mid. Sch. Principal					
High Sch. Principal					
Superintendent					
Other					

Additional information:

Emergency licenses (EL)

How many vacancies for the 2000-2001 school year were filled by individuals with EL?

What licensure/subject areas and grade levels were these individuals hired to fill?

Attrition Data

Briefly describe the types of attrition data collected by your school district (i.e., retirements, resignations, nonrenewals, reasons for leaving, years of service, etc.) Please, include copies of spreadsheets, reports, etc.

Critical Shortage Areas

Consider the impact of state, federal, and local programs on your district's demand for educational personnel, what program(s) will have the greatest influence on hiring in the next 5 years? Briefly explain.

Briefly describe methods your district uses to recruit, hire, and retain personnel in critical shortage areas such as special education, technology education, science, ESL/bilingual education, etc

Please feel free to make any comments you feel could contribute to this study.

Appendix B

Districts Responding to Survey and Their School-age Populations

Adams-Friendship-2,055	Cadott-944
Albany-460	Cambria-Friesland-505
Algoma-706	Cameron-860
Alma Center-622	Campbellsport-1,495
Alma-409	Cashton-579
Altoona-1,416	Cedar Grove-Belgium-1,001
Amery-1,944	Cedarburg-2,923
Antigo- 3,029	Central / Westosha UHS-1,135
Argyle-373	Chippewa Falls-4,438
Arrowhead-1,943	Clayton-398
Ashland-2,243	Clear Lake-704
Ashwaubenon-3,200	Clinton-1,167
Athens-564	Clintonville-1,649
Augusta-691	Cochrane-Fountain City-782
Baldwin-Woodville-1,359	Colby-1,111
Bangor-676	Coleman-779
Baraboo-3,087	Colfax-895
Barneveld-438	Columbus-1,244
Barron-1,546	Cornell-578
Bayfield-536	Cuba City-789
Beaver Dam-3,432	Cudahy-2,983
Belleville-888	Cumberland-1,239
Belmont-395	D C Everest-5,084
Beloit-6,880	Darlington-892
Beloit Turner-1,130	De Forest-3,073
Benton-299	Delavan-Darien-2,689
Berlin-1,790	Denmark-1,680
Big Foot UHS-524	Dodgeland-780
Birchwood-331	Dodgeville-1,249
Black Hawk-609	Dover #1-89
Black River Falls-2,003	Drummond-582
Blair-Taylor-734	Durand-1,194
Bloomer-1,110	East Troy-1,729
Bonduel-907	Eau Claire-11,268
Boscobel-1,006	Edgar-665
Boulder Junction J1-245	Edgerton-1,908
Bowler-574	Elcho-417
Boyceville-951	Eleva-Strum-680
Brighton #1-167	Elkhart Lake-Glenbeulah-592
Brillion-861	Elkhorn-2,515
Bristol #1-550	Ellsworth-1,841
Brodhead-1,256	Elmbrook-7,415
Brown Deer-1,718	Elmwood-413
Bruce-632	Erin-376

Evansville-1,529
Fall Creek-861
Fennimore-879
Flambeau-692
Florence-870
Fontana J8-295
Fort Atkinson-2,650
Fox Point J2-875
Franklin-3,839
Frederic-606
Freedom-1,525
Friess Lake-240
Galesville-Ettrick-Tremp-1,437
Genoa City J2-584
Germantown-3,635
Gillett-858
Gilman-558
Gilmanton-256
Glendale-River Hills-1,101
Glenwood City-857
Goodman-Armstrong-235
Granton-343
Grantsburg-966
Green Bay-21,104
Greendale-2,163
Greenfield-3,167
Greenwood-564
Hartford J1-1,533
Hartford UHS-1,702
Hayward-1,959
Herman #22-108
Highland-378
Hillsboro-656
Holmen-2,976
Hortonville-2,636
Howards Grove-995
Hudson-4,133
Hurley-771
Hustisford-435
Independence-331
Iola-Scandinavia-825
Iowa-Grant-1,016
Ithaca-374
Janesville-10,758
Jefferson-1,726
Johnson Creek-610
Juda-335
Kaukauna-3,615
Kenosha-20,099
Kettle Moraine-4,276
Kewaunee-1,154
Kickapoo-437
Kiel-1,526
Kimberly-3,117
La Farge-317
Lac du Flambeau #1-512
Ladysmith-Hawkins-1,181
Lake Holcombe-517
Lakeland UHS-972
Lancaster-1,155
Laona-318
Linn J4-97
Linn J6-116
Little Chute-1,465
Lodi-1,585
Lomira-1,099
Luck-645
Manawa-936
Manitowoc-5,619
Maple Dale-Indian Hill-628
Maple-1,388
Marathon-718
Marinette-2,567
Marion-669
Marshall-1,205
Marshfield-4,086
Mauston-1,636
Mayville-1,247
McFarland-1,951
Medford-2,427
Mellen-340
Melrose-Mindoro-729
Menominee Indian-991
Menomonee Falls-4,232
Menomonie Area-3,366
Mequon-Thiensville-4,214
Mercer-232
Merton-841
Milwaukee-97,985
Minocqua J1-649
Mondovi-1,114
Monona Grove-2,702
Monroe-2,759
Montello-841
Monticello-437
Mosinee-2,014
Mount Horeb-1,979
Mukwonago-5,059

Necedah-751
Neenah-6,608
Neillsville-1,254
Nekoosa-1,533
Neosho J3-186
New Auburn-346
New Berlin-4,611
New Lisbon-714
New London-2,512
New Richmond-2,435
Niagara-575
North Crawford-652
North Fond du Lac-1,252
North Lake-423
Northern Ozaukee-899
Northland Pines-1,605
Norway J7-137
Oakfield-659
Oconomowoc-4,153
Oconto Falls-1,992
Oconto-1,323
Omro-1,239
Onalaska-2,762
Oostburg-947
Oregon-3,430
Osceola-1,725
Oshkosh-10,738
Osseo-Fairchild-985
Owen-Withee-620
Palmyra-Eagle-1,188
Pardeeville-982
Paris J1-212
Park Falls-942
Parkview-1,154
Pecatonica-514
Pepin-328
Pewaukee-2,096
Phelps-195
Phillips-1,185
Pittsville-829
Platteville-1,664
Plum City-384
Plymouth-2,503
Portage-2,561
Potosi-427
Poynette-1,114
Prairie Farm-351
Prescott-1,175
Princeton-481
Pulaski-3,428
Racine-21,102
Randall J1-689
Randolph-508
Random Lake-1,051
Raymond # 14-390
Reedsburg-2,444
Reedsville-740
Rib Lake-584
Rice Lake-2,703
Richland-1,619
Richmond-407
Rio-571
River Falls-2,905
River Ridge-667
River Valley-1,580
Riverdale-911
Rosholt-774
Royall-731
Rubicon J6-146
Saint Croix Central-968
Saint Croix Falls-1,084
Saint Francis-1,456
Salem J2-1,075
Seneca-372
Sevastopol-669
Shawano-Gresham-2,946
Sheboygan-10,418
Sheboygan Falls-1,689
Shell Lake-564
Shiocton-834
Shorewood-2,254
Shullsburg-431
Silver Lake J1-603
Siren-509
Slinger-2,756
Somerset-1,142
South Milwaukee-3,588
Southern Door-1,327
Southwestern WI-617
Sparta-2,783
Spooner-1,683
Spring Valley-733
Stanley-Boyd-1,048
Stevens Point-7,871
Stone Bank-313
Stoughton-3,657
Sturgeon Bay-1,440
Sun Prairie-4,776

Suring-654	Westby-1,182
Thorp-610	Westfield-1,410
Three Lakes-792	Weyerhaeuser-250
Tigerton-419	Wheatland J1-518
Tomah-3,106	White Lake-282
Tomahawk-1,715	Whitefish Bay-2,845
Tomorrow River-883	Whitehall-757
Trevor Grade-366	Whitewater-2,079
Tri-County-873	Wild Rose-765
Turtle Lake-632	Williams Bay-534
Twin Lakes #4-399	Wilmot Grade-137
Two Rivers-2,227	Wilmot UHS-1,040
Union Grove J1-601	Winneconne-1,665
Unity-1,239	Winter-441
Valders-1,151	Wisconsin Heights-1,195
Verona-4,222	Wisconsin Rapids-5,948
Wabeno-643	Wonewoc-Union Center-429
Walworth J1-516	Woodruff J1-614
Washburn-770	Wrightstown-946
Washington-124	Yorkville J2-353
Waterford Graded J1-1,401	Brown Co CDEB-139
Waterford UHS-991	Calumet Co CDEB-NA
Waterloo-905	Marathon Co CDEB-NA
Watertown-3,725	Walworth Co CDEB-225
Waunakee-2,836	CESA 1-NA
Waupun-2,389	CESA 3-NA
Wausau-9,015	CESA 4-NA
Wausaukee-781	CESA 5-NA
Wautoma-1,654	CESA 6-NA
Wauwatosa-7,114	CESA 7-NA
Wauzeka-Steuben-377	CESA 8-NA
Webster-778	CESA 9-NA
West Bend-6,779	CESA 11-NA
West De Pere-1,881	<u>CESA 12-NA</u>
West Salem-1,562	

Districts NOT Responding to Survey and Their School-age Populations

Abbotsford-651	Port Edwards-515
Almond-Bancroft-529	Port Washington-Saukville-2,661
Appleton-14,793	Prairie du Chien-1,269
Arcadia-881	Prentice-569
Auburndale-929	Rhineland-3,381
Burlington-3,507	Richfield J1-449
Butternut-233	Ripon-1,669
Cambridge-1,027	Rosendale-Brandon-1,028
Cassville-363	Sauk Prairie-2,261
Chetek-1,087	Seymour-2,467
Chilton-1,355	Sharon J11-288
Crivitz-887	Solon Springs-400
De Soto-605	South Shore-246
Deerfield-747	Spencer-900
Elk Mound-868	Stockbridge-265
Fall River-439	Stratford-771
Fond du Lac-7,241	Superior-5,170
Gibraltar-693	Swallow-345
Glidden-275	Viroqua-1,312
Green Lake-357	Waukesha-12,760
Hamilton-3,892	West Allis-8,795
Hartland-Lakeside J3-1,306	Weston-403
Hilbert-546	Weyauwega-Fremont-1,099
Horicon-1,067	Whitnall-2,501
Kewauskum-1,910	Wisconsin Dells-1,779
Lake Country-498	Wittenberg-Birnamwood-1,449
Lake Geneva J1-1,645	Racine Co. CDEB-NA
Lake Geneva-Genoa City-1,113	CESA 2-NA
Lake Mills-1,287	CESA 10-NA
Loyal-666	
Luxemburg-Casco-1,853	
Madison Metropolitan-25,087	
Markesan-990	
Merrill-3,442	
Middleton-Cross Plains-5,125	
Milton-2,894	
Mineral Point-871	
Mishicot-1,098	
Muskego-Norway-4,593	
New Glarus-735	
New Holstein-1,283	
Nicolet UHS-1,353	
Norris-111	
North Cape-193	
Northwood-412	
Oak Creek-Franklin-4,823	

Appendix C

Program Completer Survey

Are you currently employed?

- A. Yes Please continue to number 2.
- B. No If no, please explain briefly why.

What certification(s) do you hold?

Elementary	Middle/High School	Special Fields	Special Education
Early Childhood/ Kinder		Agriculture	Cognitive Dis.
Elementary	Biology	Art	Emotional Dis.
Other	Chemistry	Business Ed	Learning Dis.
Specialized	Earth Science	Family/Consumer Ed	Early Childhood: EEN
ESL/Bilingual	English/Language Arts	Music	Cross Categorical
Foreign Language	General Science	Phys. Ed	Deaf/Hearing Imp.
Library/ Media	Journalism/Speech	Technology Ed	Visually Imp.
Reading Specialist	Mathematics	Other	Speech/Lang. Path.
Reading Teacher	Physics	Administrators	PT/OT
School Counselor	Social Studies	Curriculum Director	Other
School Nurse	Other	Director of Special Ed	
School Psychologist		Elementary Principal	
School Social Worker		Middle School Principal	
Other		Principal	
		High School Principal	
		Superintendent	
		Other	

Are you teaching?

- A. Yes Please continue to number 4 and complete the survey.
- B. No If no, please explain briefly why and return the survey.

What subject area(s) are you teaching?

Elementary	Middle/High School	Special Fields	Special Education
Early Childhood/ Kinder		Agriculture	Cognitive Dis.
Elementary	Biology	Art	Emotional Dis.
Other	Chemistry	Business Ed	Learning Dis.
Specialized	Earth Science	Family/Consumer Ed	Early Childhood: EEN
ESL/Bilingual	English/Language Arts	Music	Cross Categorical
Foreign Language	General Science	Phys. Ed	Deaf/Hearing Imp.
Library/ Media	Journalism/Speech	Technology Ed	Visually Imp.
Reading Specialist	Mathematics	Other	Speech/Lang. Path.
Reading Teacher	Physics	Administrators	PT/OT
School Counselor	Social Studies	Curriculum Director	Other
School Nurse	Other	Director of Special Ed	
School Psychologist		Elementary Principal	
School Social Worker		Middle School Principal	
		Principal	

her

High School Principal
Superintendent
Other

What grade do you teach?

Early Childhood/Kindergarten

Grade 1 2 3 4 5 6 7 8 9 10 11 12

Are you employed

8. Part-time

9. Full-time

10. Substitute

Name of District where you are employed:

Name of school where you are employed: