

Educator Supply and Demand in Washington State

2004 Report



March 2005

Office of Superintendent of Public Instruction
Old Capitol Building
P.O. Box 47200
Olympia, WA 98504-7200

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E-mail: profed@OSPI.wednet.edu
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2004 Report

Prepared by
Larry Lashway, Program Specialist
Rick Maloney, Ed.D., Associate Director

In Collaboration With
Randy Hathaway, Executive Director, Washington School Personnel Association
BJ Bryant, Executive Director, American Association for Employment in Education

Professional Education and Certification

Office of Superintendent of Public Instruction
Arlene Hett, Ed.D., Director

Dr. Terry Bergeson
Superintendent of Public Instruction

Dr. Mary Alice Heuschel
Deputy Superintendent, Learning and Teaching

Dr. Andrew Griffin
Assistant Superintendent
Higher Education, Certification, and Community Outreach

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INTRODUCTION

Background of the Study

This is the third Educator Supply and Demand research study in the State of Washington. The first study in Washington was issued in the spring of 2000. The 2002 study used the same survey instrument, adding administrative and support personnel (special services) as well as district/regional identifiers. The 2004 study utilized a slightly redesigned survey, primarily changing some education fields to more closely align with current certification nomenclature in the state. In addition, this year's report incorporates data from OSPI's annual *Certificates Issued and Certificated Personnel Placement Statistics* report.

The design, organization and implementation processes of the study were supported by the Office of the Superintendent of Public Instruction, the Washington School Personnel Association, and the American Association for Employment in Education. AAEE has conducted 28 annual studies of national educator supply and demand, as well as three regional correlation studies. The statistics were generated by the Research and Data Analysis Consultation Service at The Ohio State University, the researchers who assist with the national studies of AAEE.

The intent of these Washington studies is to provide data to inform and shape decisions and activities in the following ways:

- Provide useful information for educational policymakers, including the legislature, the State Board of Education, and the Higher Education Coordinating Board.
- Assist the Office of Superintendent of Public Instruction in planning actions and initiatives appropriate to the Elementary and Secondary Education Act (No Child Left Behind).
- Inform the media and general public relative to issues in educator supply and demand.
- Influence federal grant proposal design.
- Create dialog among educator stakeholder groups and community-based organizations to solve supply challenges in their respective regions.
- Contribute to the 2000 and 2002 data, creating longitudinal information, comparative statistics across the years, expanding the knowledge of trends in educator supply and demand in Washington.

Methodology

The survey was mailed to all 296 school districts in Washington during September 2004 with a requested response date of October 15. Phone call reminders were made by the Washington School Personnel Association until responses were received from 269 districts (90.9% response rate).

Similar to 2000 and 2002, data were aggregated for:

1. Number of Vacancies within the state, by field, during 2004
2. Administrators' perceived difficulty (demand) in filling positions in each field: supply (availability of qualified candidates) versus demand (number of district openings).
3. Comparisons between and among the three years of data.

4. The number of retirees anticipated, by field, between 2004 and 2009, giving a five-year forecast of teaching, administrative and support personnel (special services) retirements.
5. Forecasted need for replacement educators: the level to which each field's positions will be filled by the districts experiencing retirements/attrition: expansion of the field's staffing, keeping the staffing the same, or diminishing of the field/program.
6. Administrators' perception of factors affecting the supply of or the demand for educators.
7. Supply and demand rankings for fields segmented regionally with ESD data.

Factors Influencing Supply And Demand

Describing and understanding educator supply and demand is a complex issue that requires more than simply matching comparing the number of graduates per field with the number of openings per field. For example, the American Association for Employment in Education has identified the following factors that influence supply and demand:

- ✓ **Personal career choice** – Students in education may see the job market statistics for their fields and yet choose majors not on the basis of supply and demand data, but on the basis of what they love to study and want to teach. For example, students may understand that there are shortages in special education and surpluses in social studies, but if they enjoy studying history and related subjects, they will still choose to major in that field.
- ✓ **Certification areas available** – Depending upon the college or the program that the student is attending, a particular field may not be available for them to study.
- ✓ **Preparation programs** – College preparation programs vary in size and majors offered. Even if the program or major is available, it may have enrollment caps or criteria that the student does not meet.
- ✓ **Geographic preferences** – Shortages may exist in one part of the state or one part of the country, but unless candidates are willing to locate or relocate to that area, the supply to meet those shortages will not exist. For example, a study at Ohio State University showed that, after 1½ years following graduation, 77% of the teacher education graduates were teaching within 50 miles of their high school, their college, or both. Only 23% were beyond 51 miles from their previous places of residence. The National Teacher Database studying many colleges of education around the country arrives at similar statistics on a regular basis. Geographic preferences have a dramatic influence on supply and demand.
- ✓ **Number of teachers** – The number of teachers in the workforce --- or forecasted to be needed in the workforce due to student enrollment or the need for special programs --- influence the demand for educators.
- ✓ **Number of P-12 students** – A major impact on the demand for teachers is the number of students matriculating through the P-12 system statewide and also specific school districts: growing through changes in birth rates, immigration, etc. or declining due to parents leaving a city or town, ending a birth rate bubble, etc.
- ✓ **Retirement and attrition** – Demand is affected by the rate at which teachers retire or leave their positions or profession. It is vital for policymakers to examine the ages of teachers currently in the workforce and forecast the number who will be eligible to retire at any particular point in time.

- ✓ **Salaries & benefits** – The supply of candidates for a particular region or school system will be influenced by the salary and benefits, as compared between career fields or between school systems as a teacher education student prepares to job hunt. Candidates will be conducting economic comparisons and cost-of-living comparisons.
- ✓ **Working conditions & environment** – The working conditions of educators include: class sizes, facilities, safety, resources, and administrative support. Increasingly, working conditions and education environment are factors that candidates look for when interviewing for and selecting positions.
- ✓ **Reserve pool** – The “reserve pool” consists of the number of candidates who are qualified and could be available at any point in time but are currently out of the teaching workforce: working in other careers, staying home for parenting, pursuing graduate school, etc. Determining the size of the reserve pool can be elusive in that it is unknown what percentage of candidates would re-enter the education workforce if positions were available.
- ✓ **Education reform** – Education reform efforts impact both the demand for and the supply of educators, such as changes in mandates regarding class sizes, changing the qualifications of educators, testing requirements, etc.
- ✓ **Local policies and funding** – Specific school systems may have policies, procedures, or funding priorities that affect the demand for certain fields (e.g., maintaining the district’s tradition of a strong music program or eliminating a foreign language due to low enrollment).
- ✓ **State mandates and funding** – Both funding and mandates obviously affect the demand for educators. For example, when California mandated a teacher/student ratio with a maximum of 20 students per teacher at the primary level, a shortage of elementary candidates was created immediately.
- ✓ **National mandates and funding** --- Most evident within this factor is the impact of the No Child Left Behind Act and related regulations, including the requirements for Highly Qualified Teachers. Each state is responding to the interpretations of HQT within their own certification and licensure systems.
- ✓ **Demographics of students** – The numbers of students being diagnosed and needing special services such as special education, physical or occupational therapy, bilingual or instruction in English as a Second Language, etc. directly impacts the number of special education teachers and support personnel required to meet this demand.
- ✓ **Demographics of teachers** – Forecasts need to examine the ages of teachers within districts or within a state, as well as the diversity of the education workforce (gender, ethnicity) available.
- ✓ **Urban, suburban, rural shifts** – Supply and demand factors need to acknowledge the shifts or movements of teachers and/or students among rural, urban and suburban locations.

In summary, the educational system can face at least three kinds of shortages:

A recruitment shortage occurs when too few candidates are attracted to a particular subject area or role (often because it is seen as too stressful or difficult).

A training shortage occurs when there are not enough accessible preparation programs to produce the number of educators needed for a particular role.

A distribution shortage occurs when too few certified educators are willing to work in or relocate to the districts having the greatest need.

Readers of this report should keep this complexity in mind as they consider the implications and attempt to develop strategies to alleviate current shortages. No single action will magically correct the balance of supply versus demand.

EXECUTIVE SUMMARY

Findings

- Special education continues to show a considerable shortage and is emerging as a critical field to examine. Multiple data from this survey converge on the conclusion that concerted efforts are needed to meet a growing demand.
- Twenty-one of thirty-six teaching areas (58%) indicate there is Some Shortage including physics, early childhood special education bilingual education & English as a second language, chemistry, and mathematics, three world languages, agriculture, technology education, family and consumer sciences, library science, and all areas of music.
- Teaching areas in which supply and demand are balanced include marketing education, German, reading, visual and theatre arts, early childhood education, and English/language arts.
- Only four teaching areas are considered to show some surplus: health/fitness, history, social studies and elementary education.
- In areas of Support Personnel, a considerable shortage exists for speech pathologists, occupational therapists, physical therapists, and school psychologists. Fields showing some shortage include school nurse, school counselor, and school social worker.
- School administration fields include four fields with some shortage: high school principal, business manager, superintendent, and middle school principal. Human resource administrators and elementary principals ranked as balanced, but are still above the midpoint (3.0) in terms of staffing needs.
- One-third of district superintendents are eligible to retire by 2009.
- High numbers of mathematics, health/fitness and English/language arts teachers will be eligible to retire by 2009. With mathematics as a shortage field already and showing as fifth in the list of eligible retirees, the shortage of math teachers could widen over the next four years.
- Information segmented by Educational Service Districts indicates considerable variability across regions. While certain specialties are in short supply across the state, others show shortages in some ESDs but are more balanced in other ESDs.
- Districts and agencies need to recognize that 12 of the 18 factors studied in the 2004 research are below the midpoint of the scale, and some are negatively impacting the numbers of individuals who will enter education and the number who will be retained.

Possible Implications

Although the data provided in this report do not directly lead to specific recommendations, readers may find it helpful to consider the implications of this information.

Agencies, Boards, and Legislators

Agencies, boards, and legislators involved in policy decisions may wish to:

- Examine preparation program capacity
- Provide incentives for institutional collaboration to address personnel needs of rural and remote districts
- Consider strategies for statewide recruitment and retention of educators

- Maintain funding to support the WATeach teacher recruitment web site
- Consider compensation strategies and incentives to increase the supply of educators in considerable need areas
- Provide mentoring and other forms of support to already-certified teachers to strengthen and expand their capabilities to teach in areas of greatest need
- Consider geographic access to preparation programs
- Support alternative routes to educator certification in shortage areas
- Evaluate the overall impact of retire/rehire legislation

Colleges and Universities

Colleges and universities may wish to:

- Increase preparation program capacity in high need educator areas
- Develop recruitment efforts to entice individuals into the profession
- Expand recruitment efforts targeted toward retired military personnel, state and federal employees
- Initiate preparation programs in ESDs having high needs and little access to current programs
- Form partnerships with districts, educational service districts, and businesses to provide performance-based preparation options for para-educators and career changers
- Advise program applicants and community college and high school students about educator high need areas
- To examine and review articulation agreements between community college and four-year institutions
- Continue to work with all preparation programs to include assessment of prior learning and experience of applicants
- Establish performance based criteria for early exit from all preparation programs
- Consider supply and demand data when making decisions about enrollment targets and adding or deleting programs

Personnel and Human Resource Administrators

Personnel and human resource administrators in school systems may wish to:

- Gather retention data
- Develop systems to forecast educator personnel needs for five years
- Engage in dialog with legislators and key stakeholder groups to develop solutions to address the challenge of supply

Media and the General Public

Media and the general public may wish to:

- Develop a broader understanding of the complex issues associated with educator supply and demand
- Promote the need for high quality educators in relationship to success for all students
- Engage in dialog with legislators and key stakeholder groups to develop solutions to address the challenge of supply

FINDINGS OF THE 2004 STATEWIDE STUDY

The report attempts to portray supply and demand from several distinct perspectives:

- Vacancies (the number of openings that districts had to fill in 2004)
- Perceived supply and demand (administrator judgments of the difficulty in filling positions in various fields)
- Retirement eligibility (administrator reports of the number of personnel in each area who will be eligible for retirement over the next five years)
- Forecasted needs (Administrator estimates of personnel needs in each area over the next five years, based on pending retirements and anticipated program changes)
- Influences on supply and demand (Administrator perceptions of the factors that most strongly influence supply and demand in Washington)

In addition, the final section reports selected survey data by ESD, providing a snapshot of supply and demand in different geographic regions.

Vacancies

Table 1 documents the actual number of vacancies by field for 2004 as reported by the responding school district administrators. Data from 2002 and 2000 are also provided for comparative purposes. The far right column indicates the trend (amount of change from 2002 to 2004). These vacancies could have occurred through retirements, resignations, leaves of absence, or transfers into other positions

Overall, the number of vacancies appears to have dropped since 2002. This may be due to a variety of factors, including budgetary pressures and deferred retirements. (Some educators may choose to stay on the job longer because of changes in the economy; in addition, Washington's "retire/rehire" law may result in fewer vacancies than would otherwise be expected.) Overall, Washington's total K-12 student population has been rising slightly in recent years, although enrollment in the elementary grades appears to be declining somewhat.

Only ten of the 49 fields moved upward in the number of vacancies between 2002 and 2004: agriculture, technology education, chemistry, English/language arts, French, Spanish, occupational therapist, physical therapist, speech pathologist, and elementary principal. One field, Japanese, had exactly the same number of vacancies as in 2002. Thirty-three of the fields had fewer vacancies in 2004 than in 2002; however some of these are very small differences.

Table 1. Vacancies by Field for 2003-04, 2000-02, and 1999-2000

	1999-2000	2001-2002	2003-2004	Trend ('02-'04)
Agriculture Education	40	28	32	4
Bilingual Education	71	103	98	-5
Business Education	111	147	80	-67
Dance Education	10	10	9	-1
Family and Consumer Sciences	77	83	64	-19
Marketing Education	34	42	31	-11
Technology Education	112	91	98	7
Early Childhood Education	69	76	40	-36
Early Childhood Special Education	93	169	88	-81
Elementary Education	2039	3059	1874	-1185

English / Language Arts	284	328	439	111
ESL	126	177	146	-31
Health/Fitness	NA	NA	182.5	NA
History	104	92	87	-5
Library	111	151	102	-49
Mathematics	422	570	470	-100
Middle Level Humanities	NA	NA	295	NA
Middle Level Math/Science	NA	NA	306	NA
Music – Choral	69	111	76	-35
Music – General	126	141	106	-35
Music - Instrumental	88	118	85	-33
Reading	165	254	194	-60
Science - General Science	227	236	195	-41
Science – Biology	68	81	67	-14
Science - Chemistry	33	49	51	2
Science - Earth Science	30	48	27	-21
Science – Physics	26	35	34	-1
Social Studies	263	282	221	-61
Special Education	941	983	977	-6
Traffic Safety	39	22	13	-9
Theatre Arts (Drama)	24	36	16	-20
Visual Arts	56	76	71	-5
World Language - French	41	30	34	4
World Language - German	18	15	7	-8
World Language - Japanese	13	20	20	0
World Language - Spanish	122	132	139	7
School Counselor	238	264	217	-47
School Psychologist	157	190	161	-29
School Social Worker	16	16	15	-1
Occupational Therapist	84	71	111	40
Physical Therapist	50	40	54	14
Speech Pathologist	171	182	187	5
School Nurse	87	94	80	-14
Principal - Elementary	130	149	152	3
Principal - Middle School	61	81	77	-4
Principal - High School	68	88	86	-2
Human Resources	NA	NA	29	NA
Business Manager	NA	NA	25	NA
Superintendent	46	50	43	-7

Note: Openings are reported by endorsement area. Due to recent changes in the state endorsement system, there are a few fields where comparative data are not available (indicated by NA for Not Available). Because of these changes, the calculated trends may be misleading in a few cases. For example, the sizable decrease in demand for elementary teachers may in part reflect the addition of middle level endorsements to the list. That is, vacancies reported under middle level on this year's report may have been reported as elementary (K-8) vacancies on previous reports. Similarly, previous surveys listed English as well as English/Language Arts; some of the openings reported under English/Language Arts on this year's report may have been reported under English on previous reports.

Perceptions of Supply and Demand

Table 2 identifies the mean of the administrators' perceptions of supply (availability of candidates) compared to their own demand (number of openings in their district) in 2003-2004 using a scale of "1" to "5" with "5" indicating a considerable shortage of candidates and "1" indicating a considerable surplus. Administrators and support personnel appear in Table 4.

Table 2 illustrates that 22 (61.1%) of the 36 teaching fields studied are in shortage categories, with Special Education considered to be in a considerable shortage, meaning that there are more positions than there are candidates.

Table 2. Administrators' Perceptions of Teaching Area Shortages

Field	'03-'04	'03-'04	'03-'04
Considerable Shortage (range 5.00-4.21)			
Special Education	4.57		
Some Shortage (range 4.20-3.41)			
Science – Physics	4.12	Science - Earth Science	3.77
Early Childhood Special Education	4.05	Music – Instrumental	3.74
Bilingual Education	4.04	Science – Biology	3.73
Science – Chemistry	4.01	Music – Choral	3.72
Mathematics	3.98	Business Education	3.63
World Language – Japanese	3.85	Technology Education	3.61
World Language – Spanish	3.85	Family and Consumer Sciences	3.60
ESL	3.85	Music – General	3.59
Science - General Science	3.80	Library	3.49
Middle Level Math/Science	3.78	World Language – French	3.45
Agriculture Education	3.77		
Balanced (range 3.40-2.61)			
Marketing Education	3.36	Dance Education	3.03
World Language – German	3.33	Middle Level Humanities	3.02
Reading	3.33	Early Childhood Education	3.00
Visual Arts	3.27	Traffic Safety	2.97
Theatre Arts (Drama)	3.15	English / Language Arts	2.96
Some Surplus (range 2.60-1.81)			
Health/Fitness	2.57	Social Studies	2.40
History	2.44	Elementary Education	2.25
Considerable Surplus (range 1.80-1.0)			
None			

Ten teaching fields (27.8%) are in a balanced category, meaning that there are enough candidates per position and enough positions per candidate. However, geographic location and geographic flexibility of the candidates become critically important in understanding whether a particular school system will be able to hire a highly qualified candidate in that particular field.

Four fields (11.1%) are in a category of some surplus, meaning that there are slightly more candidates than there are positions.

There are no fields in the category of considerable surplus statewide (considerably more candidates than there are positions), although such situations can occur in highly popular locations near a large teacher education program, where a considerable number of candidates seek the same position.

The American Association for Employment in Education reports similar supply and demand patterns in other regions of the country, with many other states showing “Some Shortage” in fields such as early childhood special education, bilingual education, English as a Second Language, and most sciences. At the same time, all music fields are shown as “Balanced” nationally, while they show “Some Shortage” in Washington State. Also, while physics and mathematics are seen in “Considerable Shortage” nationally, Washington reports these fields in “Some Shortage.”

Special education is the only “Considerable Shortage” field (4.57) cited by Washington administrators; the state need ranks .15 higher than any of the 10 special education fields studied by AAEE elsewhere in the country.

Administrators' Perceptions of Teaching Shortages

Table 3 compares these same rankings to those from the 2002 study. In three cases (early childhood special education, bilingual education, and reading) the demand rose; however, these increases were less than .10. Three fields did not have comparable data from 2002. Four fields (special education, Spanish, general science and agriculture) declined by very small amounts. The remaining 26 fields declined by .10 or more, with the greatest drop (-.50) in elementary ed.

Table 3. Perceptions of Teaching Shortages: 2003-04 and 2001-02

Considerable Shortage	5.00-4.21	Some Surplus	2.60-1.81
Some Shortage	4.20-3.41	Considerable Surplus	1.80-1.00
Balanced	3.40-2.61		

Field	2002	2004	Difference
Special Education	4.62	4.57	-0.05
Science - Physics	4.22	4.12	-0.10
Early Childhood Special Education	4.02	4.05	0.03
Bilingual Education	4.00	4.04	0.04
Science - Chemistry	4.17	4.01	-0.16
Mathematics	4.24	3.98	-0.26
World Language - Japanese	4.04	3.85	-0.19
World Language - Spanish	3.90	3.85	-0.05
ESL	4.04	3.85	-0.19
Science - General Science	3.85	3.80	-0.05
Middle Level Math/Science	NA	3.78	NA
Agriculture Education	3.86	3.77	-0.09
Science - Earth Science	3.97	3.77	-0.20
Music - Instrumental	4.17	3.74	-0.43
Science - Biology	4.01	3.73	-0.28
Music - Choral	4.10	3.72	-0.38
Business Education	3.91	3.63	-0.28
Technology Education	3.90	3.61	-0.29
Family and Consumer Sciences	3.85	3.60	-0.25
Music - General	3.89	3.59	-0.30
Library	3.78	3.49	-0.29
World Language - French	3.78	3.45	-0.33
Marketing Education	3.71	3.36	-0.35
World Language - German	3.81	3.33	-0.48
Reading	3.30	3.33	0.03
Visual Arts	3.37	3.27	-0.10
Theatre Arts (Drama)	3.25	3.15	-0.10
Dance Education	3.27	3.03	-0.25
Middle Level Humanities	NA	3.02	NA
Early Childhood Education	3.15	3.00	-0.15
Traffic Safety	3.41	2.97	-0.44
English / Language Arts	3.24	2.96	-0.28
Health/Fitness	NA	2.57	NA
History	2.56	2.44	-0.12
Social Studies	2.75	2.40	-0.35
Elementary Education	2.75	2.25	-0.50

Relative Demand for Support Personnel and Administrators

Table 4 reports the relative demand for administrators and support personnel. All but two fields (human resources and elementary principal) are in “Considerable Shortage” or “Some Shortage” categories. Four fields (speech pathology, occupational therapy, physical therapy and school psychology) are in “Considerable Shortage.” Seven fields are in “Some Shortage.” The two fields in the “Balanced” category are still above the midpoint of 3.00, and no fields are showing a surplus.

Table 4. Perceptions of Support Personnel and Administrator Shortages: 2002 and 2004

Rank Order of Means: Administrators' Perceptions of Support Personnel and Administrator Shortages, Ranked by 2004				
Demand Codes				
Considerable Shortage - 5.00-4.21				
Some Shortage - 4.20-3.41				
Balanced - 3.40-2.61				
Some Surplus - 2.60-1.81				
Considerable Surplus - 1.80-1.00				
		2002	2004	Difference
Considerable Shortage				
	Speech Pathologist	4.54	4.54	0.00
	Occupational Therapist	4.48	4.46	-0.02
	Physical Therapist	4.51	4.41	-0.10
	School Psychologist	4.42	4.38	-0.04
Some Shortage				
	School Nurse	4.03	4.14	0.11
	Principal - High School	3.88	3.78	-0.10
	School Counselor	3.69	3.56	-0.13
	Business Manager	NA	3.53	NA
	School Social Worker	3.58	3.47	-0.11
	Superintendent	3.71	3.46	-0.25
	Principal - Middle School	3.68	3.41	-0.27
Balanced				
	Human Resources	NA	3.32	NA
	Principal - Elementary	3.39	3.13	-0.26
Some Surplus				
	None			
Considerable Surplus				
	None			

Potential Retirements, 2004-2009

Table 5 indicates the number of individuals by field who could potentially retire between 2004 and 2009 in the 269 districts that responded to the survey. Obviously the number of elementary teachers eligible to retire is much higher than the other fields due to their predominance in the staffing of school systems. However, it is crucial to note that the #2 field for eligible retirees is that of special education, already the highest shortage of teachers in Washington. Coupled with the expected number of retirements in support personnel and administrators, there are some critical disciplines that need to be highlighted.

According to this report, 97 of the 296 Superintendents (32.8%) are eligible to retire by 2009. High numbers of mathematics, health/fitness and English/language arts teachers will be eligible to retire. With math as a shortage already and showing as fifth in the list of eligible retirees, the shortage of math teachers could widen over the next four years.

Table 5. Educators Who Will be Eligible to Retire in 2004-09

Ranked by 2004-2009 data				
Fields	'02-'07	'04-'09	Difference	
Teaching Endorsements				
Elementary Education	2460	2572	112	
Special Education	358	490	132	
English / Language Arts	279	361	82	
Health/Fitness	NA	341	NA	
Mathematics	406	320	-86	
Social Studies	298	275	-23	
Library	228	253	25	
Middle Level Math/Science	NA	193	NA	
Middle Level Humanities	NA	177	NA	
History	166	163	-3	
Science - General Science	168	155	-13	
Reading	111	142	31	
Business Education	91	104	13	
World Language - Spanish	77	104	27	
Visual Arts	NA	101	NA	
Family and Consumer Sciences	82	94	12	
Technology Education	97	93	-4	
Music - Instrumental	89	84	-5	
Music - General	49	76	27	
Science - Biology	58	67	9	
ESL	41	64	23	
Early Childhood Special Education	69	61	-8	
Early Childhood Education	27	59	32	
Science - Chemistry	44	59	15	
Music - Choral	68	57	-11	
Science - Physics	33	51	18	
Agriculture Education	38	40	2	
Science - Earth Science	22	39	17	
World Language - French	31	39	8	
Bilingual Education	31	26	-5	

	Marketing Education	28	24	-4
	Traffic Safety	NA	24	NA
	World Language - German	24	19	-5
	Theatre Arts (previous years: Drama)	18	14	-4
	World Language - Japanese	9	6	-3
	Dance Education	0	5	5
	English	228	NA	NA
	Other	12		NA
Educational Support Roles				
	School Counselor	307	276	-31
	School Psychologist	104	148	44
	Speech Pathologist	72	116	44
	School Nurse	41	64	23
	Occupational Therapist	28	46	18
	Physical Therapist	17	22	5
	School Social Worker	5	9	4
Administrative Roles				
	Principal - Elementary	209	218	9
	Principal - High School	102	113	11
	Superintendent	91	97	6
	Principal - Middle School	86	83	-3
	Business Manager	NA	41	NA
	Human Resources	NA	33	NA

Forecasted Needs by Field

Table 6 reports data regarding the staffing response to specific retirements by field. The question (please see Column 4 of Appendix A – Survey Instrument) relates to what the staffing decision will be when a person in a teaching or administrative position retires. Will that field grow due to additional students, additional program funding, state/federal mandates? Will it remain the same? Will it decline due to changes in the district’s focus or funding? Will it be eliminated due to program priorities or lack of available candidates?

Table 6. Forecasted Needs by Field

- 3 = Increasing need** The need will increase (e.g., growth in programs)
- 2 = Considerable need** Plan to replace all who leave
- 1 = Slight need** Plan to replace a portion of those who leave
- 0 = No need** Will not replace those who leave (e.g., Discontinue or downsize)

Teaching Endorsements	Mean		Mean
Special Education	2.24	Family and Consumer Sciences	1.24
Mathematics	1.99	Music - General	1.23
Middle Level Math/Science	1.77	Middle Level Humanities	1.21
Early Childhood Special Ed	1.60	Business Education	1.19
Technology Education	1.58	Music - Choral	1.16
World Language - Spanish	1.58	Social Studies	1.13
Science - Chemistry	1.58	Early Childhood Education	1.09
Science - Physics	1.54	Health/Fitness	1.09
Science - General Science	1.52	History	1.01
Elementary Education	1.51	Visual Arts	1.00
Science - Biology	1.50	World Language - French	0.94
ESL	1.46	Agriculture Education	0.93
English / Language Arts	1.43	Marketing Education	0.93
Reading	1.42	Traffic Safety	0.77
Library	1.39	Theatre Arts (Drama)	0.76
Science - Earth Science	1.37	World Language - Japanese	0.75
Music - Instrumental	1.35	World Language - German	0.72
Bilingual Education	1.32	Dance Education	0.35
Educational Support Roles		Physical Therapist	1.69
Speech Pathologist	1.94	School Counselor	1.61
Occupational Therapist	1.85	School Nurse	1.49
School Psychologist	1.83	School Social Worker	0.83
Administrative Roles			
Principal - High School	1.72	Principal - Middle School	1.45
Principal - Elementary	1.54	Business Manager	1.39
Superintendent	1.48	Human Resources	1.23

An interesting paradox can occur with retirement. An example is that of world languages. In most regions, these fields are in the “Some Shortage” category. However, since they are often not required and do not appear on competency exams, retirement or resignation can lead to high demand (shortage) or “no demand” depending on whether the program offering is eliminated due to unavailability of qualified teachers.

Once again, special education receives the highest rating of forecasted need, the only field having a mean above 2.0, indicating that it is not only a field where replacements will be needed but also a field where some growth needs to occur.

Factors Affecting Supply and Demand

Table 7 displays the respondents' perceptions regarding the factors affecting educator supply and demand. This table places the factors in relative order with positive factors descending to the negative factors. Five factors are above 3.0, one is precisely at the midpoint, and 12 of the 18 factors are below the midpoint. Several of these 12 factors are very near the midpoint. However, three factors (state funding, state mandates, and federal mandates) are in the category of Moderately Negative Influence --- factors impacting the supply of or the demand for educators. In the case of Federal mandates, the No Child Left Behind legislation has impacted the hiring process by regulating the definitions of the Highly Qualified Teacher. In some cases, that has meant that a teacher previously teaching in their minor area or with temporary certification is no longer available for the position due to the HQT requirements.

The table also shows similar data from the 2004 national study conducted by AAEE (See **Appendix B for more information.**) The national survey instrument includes more factors (40), plus factors may appear in the Demand section, the Supply section, or both; hence for a few of the factors on the Washington survey instrument, there is not a precisely corresponding rating on the national survey.

Table 7. Perception of Factors Affecting Supply and Demand

Administrators' Perception of Factors in Rank Order

- 5.00-4.21 = Significantly Positive Influence
- 4.20-3.41 = Moderately Positive Influence
- 3.40-2.61 = Midpoint; small direction of positive or negative
- 2.60-1.81 = Moderately Negative Influence
- 1.80-1.00 = Significantly Negative Influence

Factor	Mean	National
Routine Retirement	3.21	3.25
Class size	3.07	2.91
Mobility of new graduates	3.06	2.71
Mobility of experienced educators	3.04	2.59
Local Funding	3.04	2.78
Early Retirement	3.00	3.31
Lim. English prof. students	2.96	3.27
Shifts of teachers	2.96	NA
Student enrollment	2.94	3.07
Changing teacher education enrollments	2.93	NA
Shifts of students	2.92	NA
Postponed Retirement	2.91	2.78
Military demobilization	2.90	NA
Private/Home school	2.76	NA
Federal Funding	2.76	2.63
State Funding	2.59	2.28
State mandates	2.49	2.74
Federal mandates	2.42	2.66

These state and national ratings continue to highlight some of the reasons for teacher shortages: increased demand due to retirements and students enrollments, including those of students needing assistance in English. It also indicates reasons negatively impacting the supply of educators: state mandates, teacher salaries, federal mandates, school

violence/safety, testing of teachers, and discipline problems. Working conditions and amount of student motivation have ratings that are very slightly above the cut-off point for having a negative impact.

Although the .80 distance in each category places many of the factors in the midpoint range, it is disquieting to note how many of the total number of factors fall below the score of 3.0. With only four factors on the positive side of impacting the supply of educators and the remainder on the negative side, it is imperative for states and districts to address possible changes to increase the appeal of being an educator. These factors have enormous potential for discussions centered on issues within educator recruitment and retention.

DEMAND BY EDUCATIONAL SERVICE DISTRICT

Demand by Field and by ESD - 2004

Response Rate by ESD

<u>ESD</u>	<u>Qty</u>	<u>%</u>
101	49	18.5%
105	23	8.7%
112	28	10.6%
113	37	14.0%
114	15	5.7%
121	34	12.8%
123	21	7.9%
171	27	10.2%
<u>189</u>	<u>31</u>	<u>11.7%</u>
Total	265	100.0%

Key

<u>Mean</u>	<u>Definition</u>
5.00-4.21	Considerable Shortage
4.20-3.41	Some Shortage
3.40-2.61	Balanced
2.60-1.81	Some Surplus
1.80-1.00	Considerable Surplus

ESD	101	105	112	113	114	121	123	171	189
Teaching Endorsements									
Agricultural Education	3.54	3.50	3.88	4.33	2.75	3.90	4.00	3.69	4.00
Bilingual Education	3.10	4.10	4.50	4.30	4.33	3.50	4.60	4.00	4.36
Business Education	3.21	3.00	3.64	3.50	3.50	3.86	4.43	3.53	3.85
Dance	2.71	1.00	2.75	3.67	3.67	3.63	3.00	2.50	3.00
Family & Consumer Sci. Ed.	3.77	3.00	3.60	3.75	3.00	3.82	3.86	3.40	3.33
Marketing Education	3.40	1.00	3.50	3.17	3.00	3.58	3.75	2.91	3.58
Technology Education	3.44	2.20	4.00	3.60	3.67	3.63	3.75	3.86	3.75
Early Childhood Education	2.86	3.25	2.33	2.80	2.75	3.33	2.67	3.33	3.14
Early Childhood Special Ed.	3.69	2.86	4.29	3.82	4.63	4.42	4.25	3.85	4.42
Elementary Education	2.07	2.23	2.00	2.05	2.17	2.13	2.44	2.52	2.48
English/Language Arts	3.16	2.67	2.71	3.20	2.78	2.79	3.50	3.12	2.69
ESL	3.56	4.00	3.71	4.00	4.50	3.57	4.00	4.15	3.71
Health/Fitness	2.93	1.75	1.92	2.08	2.40	2.56	2.67	2.88	3.00
History	2.73	2.00	2.00	2.50	2.50	2.05	2.20	2.93	2.50
Library Media	3.40	3.50	3.50	3.33	3.60	3.91	3.50	3.14	3.17
Mathematics	3.71	3.00	4.06	4.16	3.88	4.48	3.89	3.59	4.10
Middle Level - Humanities	3.31	2.50	2.71	2.82	2.40	3.32	3.00	2.91	3.18
Middle Level - Math/Science	3.31	3.14	3.69	4.15	4.00	4.13	3.25	3.78	3.86
Music – Choral	3.82	3.40	4.50	3.91	3.57	3.62	3.40	3.50	3.67
Music – General	3.82	4.00	4.11	3.67	3.38	3.57	3.00	3.50	3.08
Music – Instrumental	3.81	3.25	4.22	3.90	3.14	3.90	3.33	3.77	3.55
Reading	2.71	3.43	3.70	3.25	3.29	3.45	3.13	3.46	3.55
Science – General	3.36	3.63	4.00	3.92	3.75	4.17	3.33	3.46	4.29
Science – Biology	3.46	3.33	3.50	3.70	4.20	3.96	3.60	3.57	4.23
Science – Chemistry	3.58	4.00	4.17	3.80	3.83	4.35	3.75	3.92	4.33
Science – Earth	3.50	3.75	4.00	3.80	3.80	4.14	3.25	3.54	4.38
Science – Physics	3.67	4.00	4.67	3.63	4.00	4.33	3.67	4.07	4.73
Social Studies	2.40	2.40	2.23	2.42	2.67	2.32	2.83	2.27	2.54
Special Education	4.00	4.42	4.69	4.63	4.73	4.93	4.40	4.32	4.79
Traffic Safety	3.00	3.33	3.67	2.50	2.50	2.67	3.00	3.50	2.80

ESD	101	105	112	113	114	121	123	171	189
Theatre Arts (Drama)	3.17	3.00	3.50	3.14	2.67	3.20	3.00	3.43	2.71
Visual Arts	3.06	2.80	3.22	3.38	4.00	3.24	4.00	3.22	3.33
French	3.58	2.00	3.67	3.67	3.67	3.53	3.67	3.71	3.00
German	3.27	2.50	3.00	3.33	5.00	3.36	3.67	3.83	2.86
Japanese	3.45	3.67	4.33	3.43	4.33	4.13	3.00	4.60	3.57
Spanish	3.78	4.00	4.17	3.92	4.60	3.88	3.67	3.62	3.57
Educational Support Roles									
School Counselor	3.47	3.92	3.82	3.38	4.14	3.38	3.67	3.50	3.44
School Psychologist	3.73	4.55	4.25	4.30	4.88	4.70	4.00	4.40	4.50
School Social Worker	3.25	3.00	2.50	3.40	4.40	3.67		3.88	3.00
Occupational Therapist	4.00	4.38	3.50	4.50	5.00	4.65	5.00	4.42	4.89
Physical Therapist	4.11	4.00	4.00	4.30	5.00	4.55	5.00	4.70	4.45
Speech Pathologist	3.67	4.55	4.80	4.58	5.00	4.81	4.20	4.29	4.89
School Nurse	3.65	3.67	5.00	4.45	4.25	4.55	5.00	3.80	4.08
Administrative Roles									
Principal - Elementary	3.18	3.27	3.00	3.08	3.00	2.93	3.29	3.33	3.00
Principal - Middle School	3.07	3.10	3.43	3.64	2.40	3.39	4.00	3.69	3.50
Principal - High School	3.35	3.55	4.14	4.15	2.86	4.06	3.50	3.82	4.00
Human resources	3.23	2.67	3.57	2.80	3.80	3.53	4.00	3.15	3.36
Business manager	3.29	3.30	4.25	3.33	3.25	3.46	3.50	3.82	3.80
Superintendent	3.19	3.33	4.17	3.42	3.17	3.71	3.00	3.67	3.36

Relative Demand by ESD - 2004

ESD 101

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
No Fields			
Some Shortage			
Physical Therapist	4.11	Science - Physics	3.67
Special Education	4.00	School Nurse	3.65
Occupational Therapist	4.00	French	3.58
Music - General	3.82	Science - Chemistry	3.58
Music - Choral	3.82	English as a 2nd Language	3.56
Music - Instrumental	3.81	Agricultural Ed.	3.54
Spanish	3.78	Science - Earth	3.50
Family Consumer Sci.	3.77	School Counselor	3.47
School Psychologist	3.73	Science - Biology	3.46
Mathematics	3.71	Japanese	3.45
Early Childhood Special Ed.	3.69	Technology Ed.	3.44
Speech Pathologist	3.67		

ESD 105

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
School Psychologist	4.55	Special Education	4.42
Speech Pathologist	4.55	Occupational Therapist	4.38
Some Shortage			
Bilingual Ed.	4.10	Science – Earth	3.75
English as a 2 nd Language	4.00	Japanese	3.67
Music – General	4.00	School Nurse	3.67
Science – Chemistry	4.00	Science – General	3.63
Science – Physics	4.00	Principal – High School	3.55
Spanish	4.00	Agricultural Ed.	3.50
Physical Therapist	4.00	Library Media	3.50
School Counselor	3.92	Reading	3.43

ESD 112

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
School Nurse	5.00	Japanese	4.33
Speech Pathologist	4.80	Early Childhood Spec. Ed.	4.29
Special Education	4.69	School Psychologist	4.25
Science - Physics	4.67	Business manager	4.25
Bilingual Ed.	4.50	Music - Instrumental	4.22
Music - Choral	4.50	School Nurse	5.00
Some Shortage			
Superintendent	4.17	Reading	3.70
Science - Chemistry	4.17	Middle Level - Math/Sci	3.69
Spanish	4.17	Traffic Safety	3.67
Principal - High School	4.14	French	3.67
Music - General	4.11	Business Ed.	3.64
Mathematics	4.06	Family Consumer Sci.	3.60
Technology Ed.	4.00	Human resources	3.57
Science - General	4.00	Marketing Ed.	3.50
Science - Earth	4.00	Library Media	3.50
Physical Therapist	4.00	Science - Biology	3.50
Agricultural Ed.	3.88	Theatre Arts	3.50
School Counselor	3.82	Occupational Therapist	3.50
English as a 2 nd Language	3.71	Principal - Middle School	3.43

ESD 113

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
Special Education	4.63	Agricultural Ed.	4.33
Speech Pathologist	4.58	Bilingual Ed.	4.30
Occupational Therapist	4.50	School Psychologist	4.30
School Nurse	4.45	Physical Therapist	4.30
Some Shortage			
Mathematics	4.16	Family Consumer Sci.	3.75
Middle Level - Math/Science	4.15	Science - Biology	3.70
Principal - High School	4.15	Dance	3.67
English as a 2nd Language	4.00	French	3.67
Science - General	3.92	Music - General	3.67
Spanish	3.92	Principal - Middle School	3.64
Music - Choral	3.91	Science - Physics	3.63
Music - Instrumental	3.90	Technology Ed.	3.60
Early Childhood Special Ed.	3.82	Business Ed.	3.50
Science - Chemistry	3.80	Japanese	3.43
Science - Earth	3.80		

ESD 114

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
German	5.00	Spanish	4.60
Occupational Therapist	5.00	English as a 2nd Language	4.50
Physical Therapist	5.00	School Social Worker	4.40
Speech Pathologist	5.00	Bilingual Ed.	4.33
School Psychologist	4.88	Japanese	4.33
Special Education	4.73	School Nurse	4.25
Early Childhood Special Ed.	4.63		
Some Shortage			
Science - Biology	4.20	Human resources	3.80
School Counselor	4.14	Science - General	3.75
Middle Level - Math/Science	4.00	Dance	3.67
Science - Physics	4.00	Technology Ed.	3.67
Visual Arts	4.00	French	3.67
Mathematics	3.88	Library Media	3.60
Science - Chemistry	3.83	Music - Choral	3.57
Science - Earth	3.80	Business Ed.	3.50

ESD 121

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
Special Education	4.93	Physical Therapist	4.55
Speech Pathologist	4.81	Mathematics	4.48
School Psychologist	4.70	Early Childhood Spec. Ed.	4.42
Occupational Therapist	4.65	Science - Chemistry	4.35
School Nurse	4.55	Science - Physics	4.33
Some Shortage			
Science - General	4.17	School Social Worker	3.67
Science - Earth	4.14	Dance	3.63
Japanese	4.13	Technology Ed.	3.63
Middle Level - Math/Science	4.13	Music - Choral	3.62
Principal - High School	4.06	Marketing Ed.	3.58
Science - Biology	3.96	English as a 2 nd Language	3.57
Library Media	3.91	Music – General	3.57
Music – Instrumental	3.90	Human resources	3.53
Agricultural Ed.	3.90	French	3.53
Spanish	3.88	Bilingual Ed.	3.50
Business Ed.	3.86	Business manager	3.46
Family Consumer Sci.	3.82	Reading	3.45
Superintendent	3.71		

ESD 123

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
Occupational Therapist	5.00	Business Ed.	4.43
Physical Therapist	5.00	Special Education	4.40
School Nurse	5.00	Early Childhood Spec. Ed.	4.25
Bilingual Ed.	4.60		
Some Shortage			
Speech Pathologist	4.20	Science - Chemistry	3.75
Agricultural Ed.	4.00	School Counselor	3.67
English as a Second Language	4.00	Science - Physics	3.67
Visual Arts	4.00	French	3.67
School Psychologist	4.00	German	3.67
Principal - Middle School	4.00	Spanish	3.67
Human resources	4.00	Science - Biology	3.60
Mathematics	3.89	English/Language Arts	3.50
Family Consumer Sci.	3.86	Library Media	3.50
Marketing Ed.	3.75	Principal - High School	3.50
Technology Ed.	3.75	Business manager	3.50

ESD 171

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
Physical Therapist	4.70	School Psychologist	4.40
Japanese	4.60	Special Education	4.32
Occupational Therapist	4.42	Speech Pathologist	4.29
Some Shortage			
English as a 2nd Language	4.15	Principal - Middle School	3.69
Science - Physics	4.07	Superintendent	3.67
Bilingual Ed.	4.00	Spanish	3.62
Science - Chemistry	3.92	Mathematics	3.59
School Social Worker	3.88	Science - Biology	3.57
Technology Ed.	3.86	Science - Earth	3.54
Early Childhood Special Ed.	3.85	Business Ed.	3.53
German	3.83	Music - Choral	3.50
Principal - High School	3.82	Music - General	3.50
Business manager	3.82	Traffic Safety	3.50
School Nurse	3.80	School Counselor	3.50
Middle Level - Math/Science	3.78	Science - General	3.46
Music - Instrumental	3.77	Reading	3.46
French	3.71	Theatre Arts	3.43
Agricultural Ed.	3.69		

ESD 189

Field/Discipline	Mean	Field/Discipline	Mean
Considerable Shortage			
Occupational Therapist	4.89	Early Childhood Spec. Ed.	4.42
Speech Pathologist	4.89	Science - Earth	4.38
Special Education	4.79	Bilingual Ed.	4.36
Science - Physics	4.73	Science - Chemistry	4.33
School Psychologist	4.50	Science - General	4.29
Physical Therapist	4.45	Science - Biology	4.23
Some Shortage			
Mathematics	4.10	Music - Choral	3.67
School Nurse	4.08	Marketing Ed.	3.58
Agricultural Ed.	4.00	Japanese	3.57
Principal - High School	4.00	Spanish	3.57
Middle Level - Math/Science	3.86	Music - Instrumental	3.55
Business Ed.	3.85	Reading	3.55
Business manager	3.80	Principal - Middle School	3.50
Technology Ed.	3.75	School Counselor	3.44
English as a 2nd Language	3.71		

INDICATORS OF DEMAND – LIMITED CERTIFICATES ISSUED

The following information about conditional and emergency certificates is extracted from *Annual Report, 2003-2004 Certificates Issued and Personnel Placement Statistics*. It provides another perspective on demand, because these limited certificates are only issued when a district affirms that fully qualified candidates are not available

Conditional certificates, issued to individuals who may have unusual expertise or competence in an endorsement area but do not meet all qualifications for a regular certificate, must be requested by the employer, who must verify that conditions warrant its issuance. Conditional certificates issued in 2002-03 and 2003-04 are shown at Table 8. There was a decrease from 266 to 223 in the total number of conditional certificates issued during the year. Nineteen of the 52 endorsement areas showed an increase in conditional certificates compared with the previous year, while 24 showed a decrease and 9 remained the same.

Table 8. Endorsements on Conditional Certificates 2002-2003 and 2003-04

<u>Endorsement</u>	<u>'02-03</u>	<u>'03-04</u>	<u>+/-</u>	<u>Endorsement</u>	<u>'02-03</u>	<u>'03-04</u>	<u>+/-</u>
Agriculture	1	1	0	Latin	-	1	+1
Amer. Sign Lang.	3	2	-1	Learning Resources	3	2	-1
Arabic	-	2	+2	Library Media	-	2	+2
Art	6	5	-1	Mathematics	11	7	-4
Basketball Coach	1	1	0	Middle Level	-	1	+1
Bilingual Education	10	2	-8	Music	13	14	+1
Biology	1	2	+1	Physical Education	4	3	-1
Business Ed	1	1	0	Physics	1	1	0
Chemistry	-	3	+3	Reading	3	1	-2
Chinese	1	1	0	ROTC Instructor	19	10	-9
Choral Music	4	1	-3	Salish	-	1	+1
Comparative Religion	-	2	+2	School Nurse	16	4	-12
Computer Science	-	1	+1	SLP/Audiologist	4	17	+13
Dance	8	7	-1	Science	8	6	-2
Drama	5	-	-5	Soccer Coach	2	-	-2
Early Childhood Ed	3	4	+1	Social Studies	1	3	+2
Early Child Spec Ed	2	2	0	Spanish	9	10	+1
Elementary Education	16	12	-4	Special Education*	34	28	-6
English Lang Arts	5	4	-1	Speech	1	-	-1
ESL	5	6	+1	Student Advisor**	1	-	-1
French	4	1	-3	Swim Coach	-	1	+1
German	-	1	+1	Technology Ed	2	3	+1
Health	1	1	0	Traffic Safety Ed	7	6	-1
Instructional Tech	2	1	-1	On-street Instr***	31	24	-13
Instrumental Music	3	3	0	Simulation****	1	1	0
Japanese	10	9	-1	Volleyball Coach	1	2	+1

* In addition to these limited certificates, OSPI is authorized to issue "pre-endorsement waivers" to certified teachers who have at least 16 semester credits in special education. 43 waivers were issued in 2002-03 and 53 in 2003-04.

** Student Advisor may indicate one of various roles (e.g. cheerleader advisor, etc.)

*** On-Street Instruction Only permits individuals to instruct behind the wheel, but not to teach the class.

**** Simulation Only permits individuals to instruct using a simulator, but not to teach the class.

Endorsements on emergency certificates issued in 2003-04 are shown at Table 9. Educational service districts, school districts, or private schools may request that an emergency certificate be issued to individuals who hold the appropriate degree and have substantially met certification requirements (nearly completed a preparation program, awaiting testing, etc.) provided that a qualified person who holds regular certification is not available. These data show an increase from the previous year in the use of emergency certification, from 78 to 87. Twenty endorsement areas are represented on this table, an increase of three from the previous year. Endorsement areas recurring from the previous year are compared with last year's quantity. Three endorsement areas required last year are no longer listed, while seven new areas appear on this year's list.

Table 9. Endorsements on Emergency Certificates 2003-04

<u>Emergency Teacher Certificates</u>	2002-03	2003-04	change
Early Childhood Education	1	1	0
Early Childhood Special Ed	-	3	+3
English as a 2nd Language	-	1	+1
English Language Arts	2	2	0
Elementary Education	4	9	+5
German	-	1	+1
Mathematics	3	7	+4
Middle Level	-	1	+1
Music	1	1	0
Physical Education	-	1	+1
Physics	1	2	+1
Science	4	5	+1
Social Studies	-	1	+1
Spanish	-	2	+2
Special Education	2	15	+13
<u>Emergency ESA Certificates</u>			
School Counselor	13	7	-6
School Psychologist	25	21	-4
School Social Worker	6	1	-5
School Speech Language Pathologist/Audiologist	6	2	-4
<u>Emergency Administrator Certificates</u>			
Principal	6	4	-2

INDICATORS OF DEMAND – PERSONNEL PLACEMENT

Employment data can provide another indicator of supply and demand, since the relative ease or difficulty of obtaining employment is a reflection of the existing supply and demand in the particular endorsement(s) held by the teacher.

Table 10 shows data for new teachers who completed Washington college/university programs in the 2002-2003 academic year; it reflects employment during the 2003-2004 school year. It indicates the percentage of teachers in each endorsement area who were actually hired to teach that endorsement. It is extracted from *Annual Report, 2003-2004 Certificates Issued and Personnel Placement Statistics*. A teacher with math and history endorsements who accepts a position in math is counted as employed only in math. Teachers hired/assigned in two or more endorsements are counted in each area of assignment.

Note: Caution should be used in making inferences from these data. This information is reported by colleges and universities based on surveys of teachers who have completed their programs. Because program completers are often geographically mobile, institutions do not always succeed in getting a response from each graduate. Therefore, the figures reported here may understate the percentages of those employed. In addition, the numbers reported here include 360 teachers employed out-of-state or in Washington private schools. Finally, the data here do not include teachers prepared out-of-state.

Despite the limitations of the data, these figures tend to reinforce the shortage information provided by districts in that holders of special education, math, and science endorsements have higher placement rates than most other areas. At first glance, it may seem surprising that 34% of teachers with special education endorsements are not employed in that area, but there are several reasons this may be the case. First, as noted above, some teachers are simply not reported. Second, many teachers hold more than one endorsement and thus may be employed in other areas; in 2003-2004, over 40 holders of special education endorsements chose to take a position in another teaching area. Third, some teachers with special education endorsements may be place-bound—unable or unwilling to relocate in order to take a position. Finally, a certain percentage of program completers voluntarily choose to defer entry into full-time teaching; in 2003-2004 this was the case for almost 10% of the graduates.

Even more puzzling is the case of physics, which is perennially reported as a shortage area. Yet only four out of 24 graduates with a physics endorsement were reported as teaching in that area in 2003-2004, even though districts reported 34 vacancies in physics. The most likely explanation for this mismatch is that holders of physics endorsements were unable or unwilling to relocate to the districts having the greatest need. The situation may also reflect the fact that physics teaching is not always a full-time assignment, especially in smaller districts. Some districts may have difficulty finding teachers who can teach physics *plus* particular subjects covered by other endorsements.

Table 10. Percent of Persons Employed in the Endorsement Area, 2003-04

<u>Endorsement Area</u>	<u>Endors. Reported</u>	<u># Employed in Endorsement</u>	<u>% Employed in Endorsement</u>
Desig Arts: Dance	1	1	100.0%
Des CTE: Agriculture Ed	11	8	72.7%
Special Education	217	143	65.9%
Middle Level: Math/Science	25	16	64.0%

<u>Endorsement Area</u>	<u>Endors. Reported</u>	<u># Employed in Endorsement</u>	<u>% Employed in Endorsement</u>
Mathematics	117	66	56.4%
Science	97	50	51.5%
DWL: Japanese	2	1	50.0%
Des CTE: Business Ed	22	10	45.5%
Elementary Education	2033	919	45.2%
Desig Arts: Music: General	45	19	42.2%
DWL: French	11	4	36.4%
English Language Arts	317	101	31.9%
DWL: Spanish	70	20	28.6%
Desig Arts: Theatre Arts	22	6	27.3%
Early Childhood Special Ed	11	3	27.3%
English-as-a-2d Language	86	22	25.6%
Library Media	4	1	25.0%
Desig Arts: Visual Arts	62	15	24.2%
----	<i>Median</i>		----
Desig Science: Earth Science	33	7	21.2%
Desig Arts: Music: Instrum	29	6	20.7%
Health/Fitness	109	22	20.2%
Des CTE: Fam/Cons Sci Ed	15	3	20.0%
Desig Science: Chemistry	38	7	18.4%
Social Studies	231	42	18.2%
Desig Science: Biology	111	19	17.1%
Desig Science: Physics	24	4	16.7%
Middle Level: Humanities	6	1	16.7%
Desig Arts: Music: Choral	34	5	14.7%
Des CTE: Marketing Ed	9	1	11.1%
DWL: German	10	1	10.0%
History	218	20	9.2%
Early Childhood Education	139	8	5.8%
Reading	237	11	4.6%
Traffic Safety	6	0	0.0%
Bilingual Education	13	0	0.0%
Des CTE: Technology Ed	3	0	0.0%
<i>Totals:</i>	<i>4550</i>	<i>1841</i>	<i>40%</i>

SUMMARY

Because of all the variables that affect educator supply and demand, accurate projections of need are always difficult to make since circumstances can change quickly. Nonetheless, the data in this report provide a timely and valuable perspective on the current situation in Washington.

The data reported by districts do not seem to support the idea that there is an urgent statewide need for teachers across subjects. Overall, the need seems to have declined slightly since the 2002 Supply and Demand report. This conclusion is reinforced by a decline in the reported placement rate of Washington program completers, from 65% two years ago to 52% today.

However, it also seems clear that many districts will continue to have difficulties filling certain positions. For example, mathematics, which is reported as “Balanced” in ESD 105, shows “Considerable Shortage” in ESD 121, and “Some Shortage” in all others. Similarly, bilingual education, which is “Balanced” in ESD 101, shows “Considerable Shortage” in five others. Thus, even when the statewide average suggests only moderate shortages, some districts may face severe shortages.

At the same time, several areas of severe shortage do extend across the state. The most obvious example is special education, which ranks high in the number of vacancies, the number of pending retirements, and the perceptions of administrators that a major shortage exists. In addition, the number of special education endorsements granted to new teachers in the past year was 377, compared with 977 vacancies. Several educational staff associate roles also have serious shortages across the state, particularly speech-language pathologists, occupational therapists, physical therapists and school psychologists. In all these areas, statewide means fall in the Considerable Shortage category.

Beyond these obvious statewide shortages, a number of teaching areas, while not showing Considerable Shortage overall, are serious enough to be noted here. For example, if we include all the areas that are at the mid-point or higher of the Some Shortage range *and* that show Considerable Shortages in at least three ESDs, the list would grow to include Early Childhood Special Education, Bilingual Education, Physics, and Japanese. Districts and policymakers may need to consider multi-faceted strategies to enhance recruitment, training, and retention in these areas.

Conversely, although no specialties show a Considerable Surplus statewide, the supply of elementary, history, social studies, and health/fitness teachers appears to be somewhat greater than the current demand; this is true across geographic regions of the state.

Undoubtedly, the numbers alone do not fully illuminate the many contextual issues that affect supply and demand across the state. Nonetheless, this information provides a valuable foundation for informing the discussion among policymakers, educators, and the public.

**Appendix
A**

Survey Instrument

**Educator
Supply and Demand
in
Washington State**

2004

Supply and Demand of Educators - Washington

Survey for 2003-2004 and 2004-2009

Directions:

1. **Column #1:** For each of the fields listed below, enter the number of openings you had for the 2003-2004 academic year. If no openings occurred, enter 0. If your district does not employ individuals in a particular field, enter NA for Not Applicable.
2. **Column #2:** Enter your perception of supply (availability of candidates) compared to demand (number of openings in your district) in 2003-2004 using the scale 1-5 below by circling the appropriate number. If this field is not applicable to your district, leave it blank.
3. **Column #3:** List the number of eligible retirees in your district in the fields listed below during the academic years 2004 through 2009.
4. **Column #4:** Based on your anticipated staff retirements/changes during 2004-2009, enter your forecasted need for replacement educators currently teaching/working in the fields listed. (Note: factors influencing your response include projected student enrollment, changes in program offerings, changes in community demographics, program funding, etc.) **Increasing need** means that you will increase staffing in that field beyond the number of staff who leave (i.e., growth in programs). **Considerable need** means that you will need to replace all who leave. **Slight need** indicates that you will need to replace only a portion of those who leave. **No need** indicates that you will not be replacing those in that field who leave (program discontinuation, downsizing, etc.)

Fields	#1. Number of Openings for the 2003-2004 Academic Year	#2. 2003-2004 Supply/Demand Circle: 5 = Considerable shortage 4 = Slight shortage 3 = Balanced 2 = Slight surplus 1 = Considerable surplus	#3. Number of Eligible Retirees 2004- 2009	#4. District Forecast of Needs by Field Circle: 3 = Increasing need 2 = Considerable need 1 = Slight need 0 = No need
Agriculture Education		5 4 3 2 1		3 2 1 0
Bilingual Education		5 4 3 2 1		3 2 1 0
Business Education		5 4 3 2 1		3 2 1 0
Dance		5 4 3 2 1		3 2 1 0
Family Consumer Science		5 4 3 2 1		3 2 1 0
Marketing Education		5 4 3 2 1		3 2 1 0
Technology Education		5 4 3 2 1		3 2 1 0
Early Childhood Ed.		5 4 3 2 1		3 2 1 0
Early Childhood Sp. Ed.		5 4 3 2 1		3 2 1 0
Elementary Education		5 4 3 2 1		3 2 1 0
English Language Arts		5 4 3 2 1		3 2 1 0
ESL – Eng. as 2 nd Lang.		5 4 3 2 1		3 2 1 0
Health/Fitness		5 4 3 2 1		3 2 1 0
History		5 4 3 2 1		3 2 1 0
Library Media		5 4 3 2 1		3 2 1 0
Mathematics		5 4 3 2 1		3 2 1 0
Fields	#1.	#2.	#3.	#4.

	Number of Openings for the 2003-2004 Academic Year	2003-2004 Supply/Demand Circle: 5 = Considerable shortage 4 = Slight shortage 3 = Balanced 2 = Slight surplus 1 = Considerable surplus					Number of Eligible Retirees 2004-2009	District Forecast of Needs by Field Circle: 3 = Increasing need 2 = Considerable need 1 = Slight need 0 = No need			
Middle Level Humanities		5	4	3	2	1		3	2	1	0
Middle Level Math/Science		5	4	3	2	1		3	2	1	0
Music – Choral		5	4	3	2	1		3	2	1	0
Music – General		5	4	3	2	1		3	2	1	0
Music – Instrumental		5	4	3	2	1		3	2	1	0
Reading		5	4	3	2	1		3	2	1	0
Science – General		5	4	3	2	1		3	2	1	0
Science – Biology		5	4	3	2	1		3	2	1	0
Science – Chemistry		5	4	3	2	1		3	2	1	0
Science – Earth Science		5	4	3	2	1		3	2	1	0
Science – Physics		5	4	3	2	1		3	2	1	0
Social Studies		5	4	3	2	1		3	2	1	0
Special Education		5	4	3	2	1		3	2	1	0
Traffic Safety		5	4	3	2	1		3	2	1	0
Theatre Arts		5	4	3	2	1		3	2	1	0
Visual Arts		5	4	3	2	1		3	2	1	0
World Lang. – French		5	4	3	2	1		3	2	1	0
World Lang. – German		5	4	3	2	1		3	2	1	0
World Lang. – Japanese		5	4	3	2	1		3	2	1	0
World Lang. – Spanish		5	4	3	2	1		3	2	1	0
Support Staff & Administrators											
School Counselor		5	4	3	2	1		3	2	1	0
School Psychologist		5	4	3	2	1		3	2	1	0
School Social Worker		5	4	3	2	1		3	2	1	0
Occupational Therapist		5	4	3	2	1		3	2	1	0
Physical Therapist		5	4	3	2	1		3	2	1	0
Speech Pathologist		5	4	3	2	1		3	2	1	0
School Nurse		5	4	3	2	1		3	2	1	0
Principal – Elementary		5	4	3	2	1		3	2	1	0
Principal – Middle School		5	4	3	2	1		3	2	1	0
Principal – High School		5	4	3	2	1		3	2	1	0
Human Resources		5	4	3	2	1		3	2	1	0
Business Manager		5	4	3	2	1		3	2	1	0
Superintendent		5	4	3	2	1		3	2	1	0
Add other fields pertinent to your district											
		5	4	3	2	1		3	2	1	0
		5	4	3	2	1		3	2	1	0
		5	4	3	2	1		3	2	1	0

5. In general terms, as compared to 2003-2004, what do you expect employment opportunities to be like for elementary, secondary and special education teachers for the approaching academic year (2004-2005)? (Please place a checkmark in the appropriate box.)

Elementary	<input type="checkbox"/> Much better	<input type="checkbox"/> Better	<input type="checkbox"/> Same	<input type="checkbox"/> Worse	<input type="checkbox"/> Much worse
Secondary	<input type="checkbox"/> Much better	<input type="checkbox"/> Better	<input type="checkbox"/> Same	<input type="checkbox"/> Worse	<input type="checkbox"/> Much worse
Special Education	<input type="checkbox"/> Much better	<input type="checkbox"/> Better	<input type="checkbox"/> Same	<input type="checkbox"/> Worse	<input type="checkbox"/> Much worse

6. What is your perception regarding how the following factors impacted the number of new educators hired in 2003-2004?

Circle:						
5 = a significant, positive influence						
4 = a moderate, positive influence						
3 = no influence						
2 = a moderate, negative influence						
1 = a significant, negative influence						
Finance	Federal Funding	5	4	3	2	1
	State Funding	5	4	3	2	1
	Local Funding	5	4	3	2	1
Retirement	Postponed Retirement	5	4	3	2	1
	Routine Retirement	5	4	3	2	1
	Early Retirement	5	4	3	2	1
Legislative Mandates	State	5	4	3	2	1
	Federal	5	4	3	2	1
Demographic Shifts in Population	Limited English-proficient Students	5	4	3	2	1
	Rural/Suburban/Urban Shifts					
	Of Teachers	5	4	3	2	1
	Of Students	5	4	3	2	1
	Student Enrollment	5	4	3	2	1
	Private Schools/Home Schooling	5	4	3	2	1
	Class Size	5	4	3	2	1
	Military Demobilization	5	4	3	2	1
Changing Teacher Education Enrollments in Colleges		5	4	3	2	1
Mobility of New Graduates		5	4	3	2	1
Mobility of Experienced Educators		5	4	3	2	1

7. Please add comments on these or other factors influencing the supply and demand of educators.

School District: _____

Person Completing Survey: _____

Telephone () _____ **E-Mail:** _____

Thank you!

National Analysis

Factors Affecting the Demand For and the Supply of Educators

2004

Table 11. National AAEE Research 2004: Factors Affecting Educator Supply & Demand

Factors Affecting Educator Supply and Demand of Educators (in relative order)

- 5.00-4.21 = Significantly Positive Influence
- 4.20-3.41 = Moderately Positive Influence
- Midpoint; small direction of positive or negative
- 3.40-2.61 =
- 2.60-1.81 = Moderately Negative Influence
- 1.80-1.00 = Significantly Negative Influence

Factors affecting supply	Mean	Factors affecting demand	Mean
Increasing Teacher Education Enrollments	3.71	Early Retirement	3.31
Personal career shifts	3.51	Limited Eng. Prof. Students	3.27
Alternative Certification/Licensure	3.26	Routine Retirement	3.25
Distance Learning Teacher Education	3.06	Student Enrollment	3.07
	Midpoint		Midpoint
Economic Conditions	2.98	Class Size	2.91
Hiring of retirees	2.94	Local Mandates	2.85
Amount of Teacher Influence	2.90	Postponed Retirement	2.78
Foreign-prepared teachers	2.89	State Mandates	2.74
Teacher benefits	2.89	Federal Mandates	2.66
Federal Funding	2.86	Federal Funding	2.63
Local Funding	2.85	Local Funding	2.48
State Funding	2.82	State Funding	2.28
Postponed Retirement	2.82		
Local Board Policies	2.75		
Classroom Intrusions	2.74		
Amount of Administrative Support	2.73		
Mobility of New Graduates	2.71		
Amount of Teaching Time	2.69		
Decreasing T.Ed. Enrollments	2.67		
Amount of Student Motivation	2.63		
Working Conditions	2.62		
Mobility of Exp. Teachers	2.59		
State Mandates	2.58		
Teacher salaries	2.57		
Federal Mandates	2.49		
School Violence/Safety	2.48		
Testing of teachers	2.46		
Discipline Problems	2.26		