

2001
RESEARCH
REPORT

Educator Supply and Demand

in the United States

Silver Anniversary Edition



Research from the
American Association for Employment in Education

American Association for Employment in Education, Inc.

Since 1934, the American Association for Employment in Education, Inc. has focused on enhancing and promoting the concept of career planning, employment, and career advancement as integral and critical components of the education process. The association manages diverse services and activities designed to help schools, colleges, and universities meet their staffing needs.

AAEE is the only national association that unites the vital components of education staffing—school districts and colleges.

Education is a unique profession. It requires colleges to provide distinctively focused career services, and simultaneously, it requires school systems to develop dynamic hiring strategies. With rapid changes in the marketplace, both sides of the staffing equation are essential to making sure the youth of today and tomorrow have qualified, caring, talented teachers in every classroom, as well as all the related educators of any system. In its efforts to provide the education community with information about the yearly recruitment of educators, the American Association for Employment in Education (AAEE) is pleased to send you this copy of the Executive Summary of the association's 2001 report on educator supply and demand in the United States. This is the 25th year that AAEE has prepared the report.



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With thanks, AAEE acknowledges the work of the 2001 Supply/Demand Research Committee. As a team, they analyzed the data which were collected, and prepared the material for this report. Special appreciation is also extended to the Research and Data Analysis Consultation Service at The Ohio State University. AAEE also expresses its gratitude to the representatives of the nearly 500 colleges and universities which participated in the survey. It is their input which has allowed us to prepare this report.

The association wishes to pay tribute to Jim Akin, retired director of career services at Kansas State University, who conducted the initial supply/demand research in 1977, authored the original report, and guided this research for many years.

Finally, we appreciate the talents of the staff of Scholl Communications Incorporated of Deerfield, IL for their ability to take research data and terminology and shape it into a useful, interesting report for the educators and policy decision makers who will utilize the information.

Executive Summary: \$5 per copy. One complimentary copy per member.

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American Association for Employment in Education Educator Supply and Demand in the United States

2001 Report
Silver Anniversary Edition
Executive Summary

This is the 25th annual study of educator supply and demand prepared by the American Association for Employment in Education as part of its mission to provide up-to-date, accurate information about the job market for educators. The report is prepared for:

- ❖ College and university deans making decisions about teacher education programs;
- ❖ Human resources administrators in school systems searching for qualified candidates and guidance counselors advising future college students;
- ❖ State departments of education and other education agency officials involved with policy decisions affecting the field;
- ❖ College and university students selecting majors, graduates seeking employment, and career services administrators advising education students;
- ❖ The media and general public to help them understand the issues in teacher supply and demand.

Highlights

- ❖ For the first time in the 25-year history of the AAEE Supply and Demand Research, no fields nationally were found to be in a surplus condition.
- ❖ There are significant shortages in the supply of pre-K-12 teachers and administrators.
- ❖ Ten out of ten special education teaching fields are reported as significant shortages.
- ❖ Significant shortages continue to be reported in physics, chemistry, mathematics, bilingual education, and ESL.
- ❖ Administrative fields, including superintendent, curriculum director, and principal positions at all levels, are identified as being shortages across the country.
- ❖ The strongest factors cited as increasing the demand for educators are:
 - early retirement,
 - routine retirement,
 - student enrollment, and
 - class size.
- ❖ The strongest factors that contribute to the decrease in the supply of educators are:
 - school violence,
 - working conditions, and
 - salaries.
- ❖ The preparation of minority educators shows no significant increase in the number of students; a majority of institutions continue to report no change in the numbers of minority students coming through their programs.
- ❖ Regional differences and field-specific differences exist; however, commonalities of demand are emerging and the trend is toward a national concern regarding the shortage of educators.
- ❖ The supply of candidates for any singular position is impacted by its geographic location and the willingness of the candidates to move to that location.

These highlights provide key implications for:

- ❖ College and university deans making decisions about teacher education programs.
 - Consider the ramifications of supply and demand with respect to program modifications, enrollment targets, and adding or deleting programs.
 - Recruiting students of color needs to be a focus of every college or department of education, considering the continuing critical shortage of minority teachers.
 - Colleges need to prepare educators to work in settings with highly diverse populations.
 - Educators must be prepared to teach an increasing number of special needs students in regular classrooms.
 - ❖ Human resource administrators in school systems searching for qualified candidates, and counselors advising future college students.
 - The positive projections for employment of teachers will make it difficult to find the right teacher for every classroom, given the regional mismatch of positions and candidates.
 - School districts may want to consider these data when developing their recruitment strategies.
 - School counselors may find this information useful in counseling with students considering vocational choices.
 - ❖ Officials in state departments and other education agencies involved with policy decisions affecting the field.
 - Be aware of the national increase in student enrollments and the ramifications for their states and agencies.
 - Additions or deletions to teacher education program offerings need to be evaluated with knowledge of supply and demand, as well as changing patterns of enrollment in public schools.
 - Be aware that state and national mandates have an impact on the supply and demand of educators.
 - ❖ College and university students selecting majors, graduates seeking employment, and career services representatives advising education students.
- Implications for students selecting majors:*
- Compare interests to the job market indicators.

- Consider selecting fields with relatively more demand.
 - Consider double certification, with at least one in a relatively high demand area.
 - Understand that the market for teachers is likely to continue to improve.
- Implications for graduates seeking employment:*
- Understand the market in the region of the country where you are seeking employment.
 - Understand that the market for teachers is likely to continue to improve.
- Implications for career services representatives advising education students:*
- Assist students who are interested in education in the selection of majors, educating them about fields of high demand and regional variations in demand.
 - Assist candidates in balancing market factors with their regions of choice. Advise local school administrators about supply and demand factors.

- ❖ The media and general public to help promote understanding of the issues in teacher supply and demand.
- As the demand for educators increases, it is likely that persons will be hired who are uncertified or who are teaching out of field.
- There is direct relationship between the quality of instruction/teaching and student learning.
- Increasing enrollments in the public schools impact not only the hiring of teachers, but also have implications for class sizes, capacity of buildings, and cost of education.
- In most major cities, there are increasing numbers of students enrolling with English as a second language, creating challenges for teaching and learning.

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Current Status of Educator Supply and Demand in the United States

While issues such as certification tests for teachers or how to improve teacher quality have been part of a national discussion, the teacher shortage has become one of the biggest concerns of education policymakers in the United States. More than a decade ago, the National Education Association (NEA, 1987) warned of the predicted problem of a shortage of teachers. The American Association for Employment in Education (AAEE) has reported in its annual supply and demand research that educator supply and demand is uneven nationwide, with some states having teacher shortages, whereas others have teacher surpluses (AAEE, 1999; Bradley, 1999). This Silver Anniversary study reports on the most recent AAEE annual survey (2001) of the status of teacher supply and demand in the United States.

Definitions of educator supply and demand are necessary to understand the remainder of this research report.

Supply: Educator supply is defined as the number of individuals with at least a baccalaureate or higher degree and other minimal requirements who are willing to supply their services as educators but are not currently providing education services (new graduates as well as previous graduates).

Demand: Educator demand is defined as the total number of positions needed to be filled by certified/licensed (or certifiable) personnel in an education setting.

Shortage: Teacher shortage occurs when the number of existing qualified teachers is fewer than the number of teaching openings (NEA Data Search, 1989). There are a variety of factors that determine educator demand including the number of students enrolled, policies regarding the curriculum and teacher-student ratios, and funding capacity. Teacher shortages occur when the number of existing qualified teachers is fewer than the number of teaching openings (NEA Data Search, 1989).

The issue of teacher supply and demand is complex because there are many factors that play into the mix. Existing literature and reports produced annually by the American Association for Employment in Education (AAEE, 1999) identified a number of these factors, including teacher retirement (both regular and early), subject area/teaching field, administrative field, turnover, region of the country, class size, student population

changes, the reserve pool, salary, educational reform, and preparation program offerings by higher education.

Retirement of teachers, including both early and routine retirements, has been reported as the most significant factor influencing future teacher employment (AAEE, 1998, 1999; Pipho, 1998). Baker and Smith (1997) reported that 31 percent of the public school teachers left the profession to retire. Among other reasons for leaving were pregnancy/child rearing, family or personal move, and dissatisfaction with the profession. Bandeira de Mello and Broughman (1996) reported that more than 24 percent of elementary and secondary teachers would be expected to retire in the next decade because of the number of teachers more than 50 years of age. However, these expectations do not reflect reality since retirement is not solely dependent on age. Many retirement decisions are based on general economic conditions, general working conditions, and communication with the administrators (NEA, 1987).

Many educational reform initiatives suggest smaller class sizes and transformation of preparation programs in general to increase the quality of teaching and learning. However, this results more often in requirements of more teachers. The 1997-1999 AAEE reports identified smaller class sizes and school improvement as among the top five factors affecting teacher supply/demand (AAEE, 1999).

Moreover, increases in demand and decreases in supply have formed shortages in a number of areas and teaching fields. In the 1980s, teacher shortages appeared in areas such as bilingual education, special education, physics, chemistry, mathematics, and computer science. After that, areas such as biology, general science, industrial arts, foreign languages, as well as such positions as school psychologist, elementary guidance counselor, and librarian have been added to the list (Darling-Hammond and Cobb, 1996). In addition, special education fields have been identified as in great demand for teachers by AAEE annual surveys during the three-year period of 1997-1999 (AAEE, 1999). The attrition rate of special education teachers is reported to be higher than that of general education teachers in terms of public school teaching and transfer among public schools (Boe, Bobbitt, and Cook, 1997). The 1999 AAEE report suggested that schools, colleges, and departments of education should play a significant role in terms of recruiting students to apply to high-demand teaching field programs.

All too frequently one hears the mantra

that two million teachers will be needed during the next ten years. Data show this claim to be highly speculative. For example, Feistritzer (1999) stated that due to a large teacher pool and alternative certification programs, teacher shortages are not a big problem. However, focusing on nationwide numbers of teachers may be misleading, because demand for teachers varies widely among and within regional geographical areas (AAEE, 1997; Bradley, 1999).

Rural and urban schools have more difficulty in recruiting teachers than suburban schools (Gitomer and Latham, 2000). Furthermore, shortages are most serious in the central cities and expanding population regions of the country. On the other hand, the Northwest and Great Lakes states have had fewest shortages because of declining student enrollments (Association for School, College, and University Staffing, 1984). Therefore, states have started to invoke different policies in order to solve the problem. These solutions include hiring retired teachers, alternative certification programs, salary increases or tax reductions, and recruiting teachers from outside of the country (Blair, 1999; Pipho, 1998).

Supply and demand data help policy makers, education agencies, school administrators, students, and graduates in teacher education programs, and decision-makers in colleges and universities. This report provides analysis of data and comparison with prior year findings in order to better inform educators about the current status of educator shortage and surplus.

Teacher Quality and Quantity: "Built to Last"

Jim Collins's book, *Built to Last*, (1994) presents a vision essential to an efficient and effective pre-K-12 education. For the past 25 years, the American Association for Employment in Education has reported findings that teaching fields in mathematics, sciences, special education, and foreign languages have been in critically short supply. Now, we have begun the next millennium with no teaching fields in surplus. In fact, for the first time in 25 years, there are no education fields in oversupply. Thus, traditional fields in critical shortage, shown in Table 2, have reached an acute status that only exacerbates the development of an educated citizenry by pre-K-12 institutions already overburdened by chronic understaffing.

The paradox is that a significant number of teachers are being prepared only to find a serious disequilibrium within the supply pool relative to the teaching fields surveyed over

the past 25 years by AAEE. According to the National Center for Education Statistics, Projections of Education Statistics to 2011 (National Center for Education Statistics, 1996), 3,054,000 teachers were employed, and by 2008 approximately 3,649,000 teachers will compose the national teaching staff. This represents an expected increase of approximately 19.5% or 595,000 more teachers in 2008.

This expectation is being driven primarily by an estimated 6% increase in elementary and secondary enrollment from 51.2 million in 1996 to 53.1 million by 2008. Secondary enrollments will increase by 1,707,000 to 15,767,000 in 2008. Using an overall student/teacher ratio of 14.8/1 (including special education support), it appears that the U.S. will need 128,918 additional teachers in 2008 than were required in 1996.

Approximately 1 million teachers will retire between 1996 and 2011, teachers will be needed to replace them, and the annual growth rates of baccalaureate degrees in education will not keep pace. The retirement rate will probably increase somewhat over previous years due to an aging workforce. However, the rate will not be nearly as drastic as one million teachers exiting the nation's schools. The teaching workforce is aging, as does any workforce. This does not mean there is going to be a mass exodus, however, as many factors affect individuals' decisions to move into retirement.

According to 1993-1994 statistics, approximately 6.6% of employed public school teachers and 11.9% of private school teachers left their positions, and approximately 27% of those who left their positions retired. It appears that of the four million teachers who will leave the profession, one million of those teachers will retire between 1996 and 2011. Observation and experience lead one to assume the rate of retirement continues to be relatively stable. Many educators stay in the profession as long as they are able. Approximately 252,400 teachers leave the profession annually (with 68,148 of that number retiring each year) and the number of education graduates (baccalaureate degrees) approximates 118,016 in 1999-2000 and 107,172 in 2000-2001.

At a glance, using the 6.6% attrition rate, it appears that if approximately 68,148 teachers retire per year and 108,168 college students graduate with education degrees, there will be a net gain of 40,020 teachers every year. If 35,833

positions are created every year due to increased enrollment, there will be only a small excess of candidates with education degrees. It will be necessary to keep entry level teachers teaching for longer than most currently do, and it will be necessary to provide incentives for experienced teachers to remain teaching for additional years to fill the positions of the four million teachers who will leave the profession between 1996 and 2011.

Higher education, by continuing to provide only the preparation programs they have in the past, will perpetuate the mismatch between the composition of the teacher supply pipeline and the human resources needs of the school systems. The challenges facing the nation's elementary and secondary schools are daunting and necessitate a seamless connection to higher education. Fully staffing America's schools requires a supply chain from the elementary and secondary levels to higher education. Higher education institutions, in collaboration with local, state, regional, and national bodies that can directly impact staffing of preK-12 schools, must be more obtrusive regarding the provision of a diversified workforce among teaching fields resulting in schools being fully staffed.

Too many American universities, according to Linda Darling-Hammond (1996), still treat their schools of education as "cash cows" whose excess revenues are spent in training doctors, lawyers, and accountants. This occurs despite the fact that employers cannot fill positions historically in high demand necessary to deliver a comprehensive curriculum that meets the needs of all children.

Alarming, teaching fields that had been in oversupply for at least the past 25 years are no longer in oversupply. Simultaneously, historically critical teaching fields remain in high demand. Preparation programs in all teaching fields must be available in order to meet the staffing needs of America's schools. Universities might be successful in offering these preparation programs independently and/or collectively. The preparation of teachers is big business and so is the education of America's children and youth.

The Education Trust and its report *Interpret With Caution: The First State Title II Reports on the Quality of Teacher Preparation* (2002) warned "... student learning in this country will improve only when we focus our efforts on improving teaching." The new federal legislation, "No Child Left Behind," likewise brings teachers and teaching to the forefront of transforming educa-

tion in America. In other words, teacher quality and quantity are imperative. To emphasize one over the other imperils what could be a highly effective education for all children and youth of America.

Pre-K-12 school employers and state certification officers try to compensate for the lack of teachers, as well as under-qualified, teachers by permitting out-of-field teaching. Critics, including Chester E. Finn, Jr. of the Thomas P. Fordham Foundation, have asserted that alternatives to traditional college preparation programs are necessary. Other programs such as Teach for America and Troops to Teachers are also viewed as important producers of teachers, in addition to traditional college preparation programs.

All of the above programs have value and none should be disbanded, particularly college preparation programs, since hundreds of thousands annually enter the profession via that door. New paradigms that transcend traditional territories of teacher education must be examined. Economic development spans state borders and so does quality education. America's universities should step up and demonstrate a sustained commitment to staffing America's schools.

2001 Study Methodology

The 25th AAEE study of teacher supply and demand in the United States was conducted in 2001. Since 1994, this research has included non-AAEE colleges and universities as well as AAEE members, more than doubling the number of institutions included in the data collection efforts. All institutions preparing teachers, as listed in the Higher Education Directory (HEP), were sent surveys in May 2001. Approximately one month after the initial survey mailing, a follow-up request and second survey was sent, color-coded. Participants responded with data for each of the teaching fields for which their institutions prepared candidates.

Several mailings were sent in order to increase the response rate: 1st survey mailing, a postcard reminder, a 2nd survey mailing, a 3rd survey faxed to AAEE members who had previously responded, and a 4th survey mailed to all who had responded (both members and non-members) within the past three years.

A retrospective, longitudinal analysis was conducted on the three most current years of data. This AAEE annual study examines the availability of teachers from the supply side of universities and colleges. Periodically, a regional study of employers is conducted to help validate the responses of the col-

leges and universities. These studies were conducted in 1994, 1995, and 1997 in the SEASCUS, MAASCUS, and GLASCUS regions respectively (Southeastern U.S., Middle Atlantic states, and Great Lakes states). These studies have consistently validated the data provided by representatives from colleges and universities.

Questions of the Study: The assumption of this national annual survey research is that the opinions and responses of university directors of career services who are directly involved in the employment of education graduates, and those of deans/directors of teacher education divisions throughout the U.S. accurately reflect the K-12 job market.

The major supply-side questions addressed in the 2001 study were:

- ❖ What is the relative supply and demand of educators in 63 teaching, administrative, and support fields for the academic year 1999-2000, with a ranking from considerable shortage to considerable surplus of educators?
- ❖ What are the expectations of employment opportunities for the 2001-2002 academic year?
- ❖ What are the expectations regarding the increase or decrease in the number of minority candidates enrolling in teacher education at the institutions surveyed?
- ❖ What are the additional issues or factors that affect teacher supply and demand on either a regional or national basis: funding, retirement, government mandates, demographic shifts in the population, changing teacher education enrollments, and mobility of new graduates and experienced teachers?
- ❖ What trends are there in supply and demand of teacher candidates across the years of 1999, 2000, and 2001?

The Study Sample: A survey instrument was mailed in May 2001 to 1,267 colleges and universities representing all teacher preparation institutions in the United States. Of this number, 618 were mailed to institutional members of AAEE who are typically career services directors responsible for the career planning and placement of graduates in teacher education and related careers. The remaining 649 were mailed to deans and directors of teacher education in universities that are not members of AAEE (see Appendix A). Usable questionnaires were received from 494 colleges and universities. (A complete listing of the responding institu-

tions by region is found in Appendix D of this report.)

AAEE members returned 337 surveys for a return rate of 55 percent. Deans and directors of teacher education programs who are not AAEE members returned 157 surveys for a return rate of 24 percent. In total, the response rate was 39 percent. The responses were representative by response wave, but are less than the previous year's response rates. Information on the responding sample sizes by region and AAEE member/nonmember status is contained in Appendix A.

The AAEE member institutions produce at least 65 percent of the total annual number of newly prepared teachers. A large proportion of responding institutions came from five of the eleven regions (Regions 4, 5, 6, 7, and 8), which reinforces the idea that institutions from these sections of the country produce a disproportionate number of the teachers for the nation. Regions 6, 7, and 8 contain 57 percent of the nation's teacher education institutions.

Instrumentation: The instrument used in the 2001 survey was the same as the 2000 survey, which has been modified to expand the number of education fields to include additional support areas and school administration. Changes included: 1) separating speech/drama into separate categories of speech education and theater, 2) adding general music, 3) changing the nomenclature of special education (adding three additional response options), 4) adding school administration areas including both principalships at three school levels and

central office positions, and 5) adding three additional support areas (school nurse, physical therapist, and occupational therapist) to the previous survey instruments. This resulted in moving from 48 teaching fields to 63 teaching, support, and administrative fields. This modification was the first major revision of the instrument since 1993. The instrument was designed to collect information about employment opportunities for prospective elementary and secondary teachers and administrative/support positions in 63 fields.

The instrument also requested information on projected employment opportunities for the coming year and on the availability of minority candidates in teacher education programs. These questions previously were asked for elementary and secondary fields; the 2000 and 2001 surveys added the fields of special education to both questions.

Finally, the instrument asked Likert-type items regarding factors impact the employment of these prospective educators. In the 2000 and 2001 surveys, four additional factors in the area of teaching environment were added: salaries, benefits, school violence, and working conditions.

Stability of Data Across Data Sets: For each of the 48 original teaching fields, the means for each survey and year (ASCUS 1995, AAEE 1996, AAEE 1997, AAEE 1998, AAEE 1999, AAEE 2000 and AAEE 2001, SEASCUS 1994, MAASCUS 1995, GLASCUS 1997) were compared. (See Appendix B). There was consistency among the 10 groups of respondents regarding fields with perceived shortage, surplus, and

Figure 1. AAEE Supply/Demand Regions

1=Northwest; 2=West; 3=Rocky Mountain; 4=Great Plains/Midwest; 5=South Central; 6=Southeast; 7=Great Lakes; 8=Middle Atlantic; 9=Northeast; 10=Alaska; 11=Hawaii

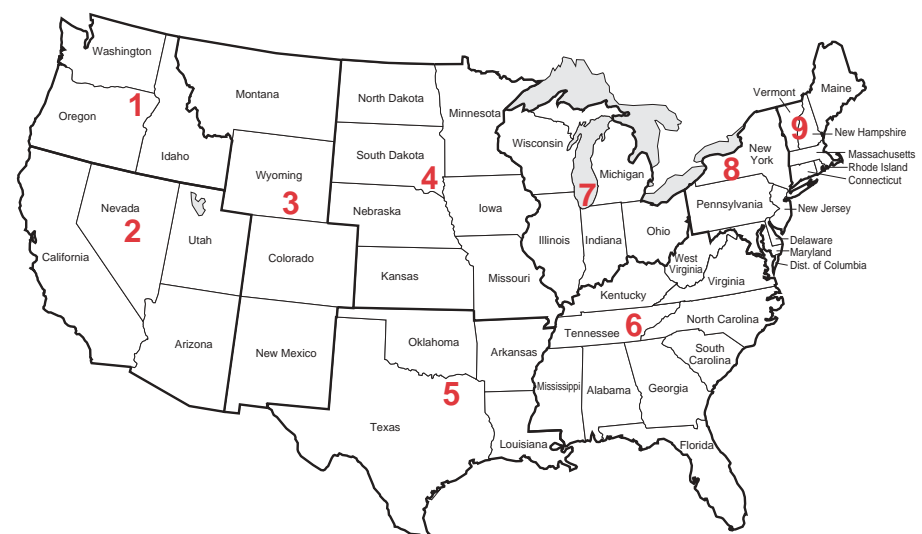


Table 1

Teacher Supply and Demand by Field and Region

Region codes: 1 - Northwest, 2 - West, 3 - Rocky Mountain, 4 - Great Plains/Midwest, 5 - South Central, 6 - Southeast, 7 - Great Lakes, 8 - Middle Atlantic, 9 - Northeast, 10 - Alaska and 11 - Hawaii.

Demand codes: 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

Field	Region											National		Change
	1	2	3	4	5	6	7	8	9	10	11	2001	2000	
Agriculture	3.00	4.00	—	4.11	3.15	3.67	4.00	3.80	4.00	3.00	—	3.69	3.43	0.26
Art/Visual Education	2.75	2.67	2.89	3.18	2.96	2.89	2.98	3.04	3.00	3.00	3.00	2.99	2.90	0.09
Bilingual Education	4.50	4.29	4.80	4.20	4.80	3.80	4.12	3.92	4.29	4.00	—	4.29	4.38	-0.09
Business Education	3.33	2.75	3.00	3.71	2.90	3.16	3.62	2.92	2.75	3.00	3.50	3.28	3.23	0.05
Computer Science Education	4.17	3.67	4.00	4.25	4.00	3.92	3.88	3.91	4.00	4.00	—	3.98	4.23	-0.25
Dance Education	2.50	2.43	3.00	2.25	3.00	3.00	3.08	2.67	3.00	3.00	—	2.82	2.85	-0.03
Driver Education/Traffic Safety	—	3.00	3.00	3.25	2.77	2.78	2.83	3.20	4.00	3.00	—	2.95	2.86	0.09
Elementary Education														
Pre-K	2.89	3.67	3.00	3.11	3.76	3.61	3.24	2.76	3.09	3.00	3.50	3.26	3.17	0.09
Kindergarten	2.71	3.73	3.11	3.03	3.67	3.64	3.10	2.79	3.04	3.00	3.67	3.22	3.06	0.16
Primary	3.00	3.83	3.36	2.88	3.67	3.65	2.96	2.82	3.00	3.00	4.00	3.21	3.02	0.19
Intermediate	3.36	3.93	3.60	3.07	3.71	3.63	3.11	3.06	3.39	3.00	4.00	3.35	3.22	0.13
English/Language Arts	3.14	3.79	3.44	3.41	3.45	3.47	3.03	3.06	2.82	4.00	4.00	3.28	3.25	0.03
English as a Second Lang. (ESL)	4.44	4.27	4.40	4.31	4.50	4.17	4.00	3.93	4.38	4.00	4.00	4.24	4.19	0.05
Health Education	2.67	2.69	2.67	2.80	2.65	2.75	2.63	2.28	2.71	3.00	—	2.67	2.56	0.11
Home Economics/Consumer Sci.	3.67	2.82	—	3.94	3.40	3.38	3.82	3.43	4.33	3.00	—	3.51	3.52	-0.01
Journalism Education	3.00	2.83	—	3.09	3.00	3.14	3.09	3.25	3.00	4.00	—	3.07	2.99	0.08
Languages														
Classics	3.00	3.29	3.50	2.90	3.67	3.67	3.11	3.18	3.75	3.00	—	3.31	3.34	-0.03
French	3.20	2.70	3.20	3.35	3.64	3.63	3.37	3.28	3.40	3.00	—	3.36	3.41	-0.05
German	2.90	2.87	3.60	3.35	3.45	3.47	3.27	3.10	3.43	3.00	—	3.27	3.25	0.02
Japanese	3.43	3.00	4.00	3.13	4.25	3.33	4.00	4.25	3.75	3.00	—	3.54	3.52	0.02
Spanish	4.08	3.96	4.71	4.21	4.39	4.19	4.22	4.02	4.00	3.00	4.00	4.17	4.16	0.01
Mathematics Education	4.36	4.83	4.89	4.70	4.57	4.60	4.45	4.29	4.67	3.00	4.50	4.55	4.44	0.11
Music Education														
Instrumental	3.50	3.68	3.63	4.00	3.44	3.38	3.68	3.25	3.60	4.00	—	3.61	3.53	0.08
Vocal	3.58	3.50	3.63	3.95	3.42	3.31	3.72	3.31	3.67	4.00	—	3.59	3.47	0.12
General	3.55	3.30	3.80	3.92	3.17	3.35	3.62	2.93	3.33	4.00	4.00	3.48	3.38	0.10
Physical Education	2.55	2.77	3.38	2.54	2.51	2.95	2.82	2.41	2.70	3.00	3.50	2.72	2.60	0.12
Reading	3.50	3.69	3.20	3.49	3.56	3.53	3.50	3.59	3.17	3.00	4.00	3.51	3.48	0.03
Science Education														
Biology	4.08	4.39	4.40	4.07	4.16	4.28	3.90	3.96	4.19	4.00	4.33	4.10	4.04	0.06
Chemistry	4.54	4.48	4.44	4.46	4.45	4.47	4.29	4.37	4.58	4.00	4.50	4.42	4.36	0.06
Earth/Physical	4.10	4.54	4.57	4.15	4.23	4.10	3.96	4.02	4.13	4.00	5.00	4.14	1.08	0.06
Physics	4.46	4.52	4.29	4.46	4.29	4.47	4.38	4.40	4.71	4.00	5.00	4.43	4.40	0.03
General	4.08	4.36	4.44	3.90	4.17	4.17	3.95	3.79	4.21	4.00	5.00	4.04	3.91	0.13
Social Studies Education	2.57	2.44	2.91	2.73	3.00	3.04	2.60	2.55	2.80	3.00	3.33	2.75	2.73	0.02
Special Educator														
Multicategorical	4.50	4.45	4.60	4.50	4.71	4.57	4.50	4.36	4.82	5.00	5.00	4.53	4.53	0.00
Emotional/Behavioral Disorders	4.57	4.44	4.50	4.70	4.79	4.77	4.53	4.50	4.78	5.00	5.00	4.66	4.59	0.07
Hearing Impaired	4.00	4.29	3.67	4.59	4.36	4.50	4.25	4.55	4.80	5.00	—	4.41	4.37	0.04
Learning Disability	4.43	4.27	4.00	4.58	4.73	4.62	4.28	4.06	4.70	5.00	5.00	4.47	4.46	0.01
Mental Retardation	4.50	4.44	4.00	4.59	4.73	4.61	4.24	4.21	4.71	5.00	—	4.49	4.44	0.05
Visually Impaired	4.00	4.00	5.00	4.56	4.75	4.43	4.40	4.67	5.00	5.00	—	4.48	4.38	0.10
Mild/Moderate Disabilities	4.33	4.25	4.25	4.51	4.56	4.62	4.21	4.29	4.50	5.00	5.00	4.44	4.45	-0.01
Severe/Profound Disabilities	4.40	4.31	4.50	4.79	4.92	4.80	4.26	4.33	4.67	5.00	—	4.59	4.51	0.08
Early Childhood Special Ed.	4.38	4.22	4.00	4.39	4.81	4.61	3.88	4.18	4.30	5.00	—	4.35	4.20	0.15
Dual Certificate (Gen./Spec.)	4.29	4.44	—	4.45	4.70	4.56	4.19	4.18	4.00	5.00	5.00	4.37	4.23	0.14
Speech Education	3.22	3.40	5.00	3.25	3.33	4.00	3.25	3.90	3.80	5.00	3.00	3.45	3.33	0.12
Technology Education	3.71	4.29	3.33	4.25	4.05	3.83	4.28	4.40	4.33	4.00	4.00	4.11	4.17	-0.06
Theatre/Drama Education	2.80	2.89	2.67	3.06	2.91	3.05	3.03	2.71	3.33	3.00	—	2.99	2.82	0.17

Field	1	2	3	4	5	6	7	8	9	10	11	2001	2000	Change
Administration														
Principal														
Elementary	3.67	3.82	3.17	3.68	3.31	3.69	3.82	4.00	4.21	3.00	4.00	3.74	3.68	0.06
Middle School	3.78	3.88	3.20	3.86	3.40	3.85	3.89	4.03	4.23	3.00	4.00	3.84	3.74	0.10
High School	4.22	3.94	3.17	3.93	3.40	3.91	3.95	4.06	4.36	3.00	4.00	3.90	3.75	0.15
Human Resources Director	3.50	3.33	—	3.00	2.43	2.83	3.18	3.44	3.00	3.00	—	3.08	3.29	-0.21
Business Manager	3.50	3.50	—	3.20	2.60	3.00	3.64	4.00	3.00	3.00	—	3.36	3.25	0.11
Superintendent	4.25	3.57	3.00	4.00	3.32	3.47	4.00	4.14	4.56	3.00	—	3.84	3.80	0.04
Curriculum Director	3.50	3.33	3.00	3.40	3.21	3.33	3.43	3.85	3.83	3.00	—	3.44	NA	
Additional Services														
Audiologist	3.33	3.67	—	4.08	3.75	3.83	4.00	4.10	4.00	4.00	—	3.91	3.71	0.20
Counselor	3.90	3.58	3.14	4.04	3.44	3.67	3.75	3.42	3.36	5.00	4.50	3.65	3.62	0.03
Gifted/Talented Education	3.00	3.43	4.00	3.44	3.29	3.41	3.41	4.00	3.00	4.00	—	3.42	3.56	-0.14
Library Science/Media Tech.	4.00	3.00	3.33	4.31	3.50	3.74	4.19	3.85	4.00	3.00	—	3.88	3.80	0.08
Occupational Therapist	3.00	3.50	3.00	2.67	3.25	3.73	3.50	3.00	3.00	5.00	—	3.30	3.10	0.20
Physical Therapist	4.00	3.00	—	3.00	3.50	3.58	3.58	3.10	3.33	3.00	—	3.36	3.29	0.07
School Nurse	4.00	3.67	—	3.64	3.86	3.78	3.93	3.20	3.71	4.00	—	3.71	3.37	0.34
School Psychologist	4.00	3.80	4.00	4.00	3.40	3.48	3.90	3.56	3.75	4.00	—	3.73	3.65	0.08
School Social Worker	3.00	3.57	3.00	3.59	3.27	3.52	3.92	3.17	3.00	4.00	4.00	3.48	3.47	0.01
Speech Pathologist	4.00	3.57	—	4.12	3.67	3.96	4.41	4.05	4.00	5.00	—	4.02	4.02	0.00
COMPOSITE	3.63	3.76	3.68	3.73	3.64	3.83	3.58	3.54	3.68	3.75	4.15	3.68	3.56	0.12
Number of Participants	16	32	11	77	45	88	86	78	30	1	3	467*	465*	

* Questionnaires returned without indication of region computed in the national averages only. Total of regional participants does not equal national total.

balanced conditions with respect to supply and demand. While some variation among the means was to be expected, the number of respondents for any one teaching field would influence the relative stability of the estimated mean. Of the 10 data sets, the number of respondents from MAASCUS 1995 was the least stable and tended to fluctuate more than either the national data or the SEASCUS and GLASCUS data (based on the number of respondents). There was strong agreement between the “suppliers” (AAEE responses) and the “demanders” (employers from SEASCUS, MAASCUS, and GLASCUS).

Intraclass correlations were generated across the original 48 teaching fields for 10 data sets (ASCUS 1995, AAEE 1996, AAEE1997, AAEE 1998, AAEE 1999, AAEE 2000, and AAEE 2001, SEASCUS 1994, MAASCUS 1995, and GLASCUS 1997). Intraclass correlations ranged from a low of .57 to a high of .99 with a median value of .92 (see Appendix B). The correlations based on reports from the suppliers across the years 1995 to 2001 had a low value of .83 and a high value of .99. The correlations across the years 1994, 1995, and 1997 based on the responses from the demand side (school districts) ranged from a low of .90 to a high of .97. The data across years for ASCUS/AAEE are very stable from year to year. The same is true for the data from employers (SEASCUS 1994, MAASCUS 1995, and GLASCUS 1997).

Data Analyses: The data were analyzed by checking for representativeness of the return sample on the variables of AAEE member/nonmember status, regions, and response wave.

The response sample was found to be representative by response wave, but not representative by region and member/nonmember. Significantly more AAEE members returned the survey than nonmembers. This situation is not likely to adversely influence the reported data as the majority of teacher preparation institutions with high enrollments belong to AAEE. In addition, there were small differences in response rate by region, particularly for nonmembers.

Next, AAEE member/nonmember responses were compared for two of the primary research questions for elementary, secondary, and special education teacher availability (employment opportunities for the approaching 2001-2002 year and status of the preparation of minority teacher candidates). There were significant differences on one of the six questions; in this case, AAEE members reported higher means than non-members for secondary teacher availability.

AAEE members and non-members were compared across each of the 63 education fields with respect to perceived need for those fields. There were significant differences on a small number of fields, with non-AAEE institutions indicating a higher perceived need for educators on a few of

the fields and on the remaining statistically significant fields, the responses favored the AAEE institutions. On most items, the perceptions of the AAEE members versus nonmembers were neither statistically different nor practically meaningful. Therefore, the responses from both member and non-member institutions were combined into an overall data set.

The combined data set was then analyzed on a national basis as well as by region, using 11 regions identified by AAEE (see Figure 1). For each of the 63 fields, regional composites and averages were compiled to address the study questions identified above.

The number of responses differs by region, and caution should be exercised when interpreting data from some regions (e.g., regions 10 and 11 have few responses and may yield unstable values). Further, new fields were added for the 2000 and 2001 years; therefore, no comparisons with previous years are available for those fields.

Statistical analyses were conducted to see if perceptions of the respondents differed between the 2000-2001 and the 2001-2002 academic years and opportunities for elementary, secondary, and special education teachers.

Findings of the Current National Study

This study examined the perceptions of career service representatives responding to the 2001 AAEE survey. Data analyses yielded an abundance of information about

Table 2

Relative Demand by Field

Fields with Considerable Shortage (5.00 - 4.21)

Emotional/Behavior Disorders	4.66
Severe/Profound Disabilities	4.59
Mathematics Education	4.55
Multicategorical	4.53
Mental Retardation	4.49
Visually Impaired	4.48
Learning Disability	4.47
Mild/Moderate Disabilities	4.44
Physics	4.43
Chemistry	4.42
Hearing Impaired	4.41
Dual Certificate (Gen./Spec.)	4.37
Early Childhood Special Education	4.35
Bilingual Education	4.29
English as a Second Language	4.24

Fields with Some Shortage (4.20 - 3.41)

Languages – Spanish	4.17
Earth/Physical	4.14
Technology Education	4.11
Biology	4.10
General Science	4.04
Speech Pathologist	4.02
Computer Science Education	3.98
Audiologist	3.91
High School Principal	3.90
Library Science/Media Technology	3.88
Middle School Principal	3.84
Superintendent	3.84
Elementary Principal	3.74
School Psychologist	3.73
School Nurse	3.71
Agriculture	3.69
Counselor	3.65
Music – Instrumental	3.61

Music – Vocal	3.59
Languages – Japanese	3.54
Home Economics/Consumer Science	3.51
Reading	3.51
Music – General	3.48
School Social Worker	3.48
Speech Education	3.45
Curriculum Director	3.44
Gifted/Talented Education	3.42

Fields with Balanced Supply and Demand (3.40 - 2.61)

Languages – French	3.36
Business Manager	3.36
Physical Therapist	3.36
Elementary – Intermediate	3.35
Languages – Classics	3.31
Occupational Therapist	3.30
Business Education	3.28
English/Language Arts	3.28
Languages – German	3.27
Elementary – Pre-Kindergarten	3.26
Elementary – Kindergarten	3.22
Elementary – Primary	3.21
Human Resources Director	3.08
Journalism Education	3.07
Art/Visual Education	2.99
Theatre/Drama	2.99
Driver Education/Traffic Safety	2.95
Dance Education	2.82
Social Studies Education	2.75
Physical Education	2.72
Health Education	2.67

Fields with Some Surplus (2.60 - 1.81)

None

Fields with Considerable Surplus (1.80 - 1.00)

None

From preliminary data supplied by survey respondents. In some instances, the averages are based upon limited input and total reliability is not assured.

educator supply and demand across 63 education fields. Data for the 63 teaching and related fields are presented in Table 1 on page 6.

Respondents were asked to rate the job market for each field on a 5-point scale with “1” representing considerable surplus of candidates, “5” representing a considerable shortage of candidates, and “3” indicating a balanced job market. After the data were compiled and analyzed, the national average score for each teaching field was used to create categories as defined below.

The relative demand of all 63 fields is included in Table 2. This identifies all fields as falling into one of five overall categories.

Considerable Shortage

Fields identified as having a considerable shortage of candidates are those fields in which there is an average demand score of 4.21 or greater on a 5-point scale.

In general, fields in this category are either specialized or designed to meet the

special needs of students.

Teacher preparation programs tend to have fewer candidates in these programs and job opportunities tend to be plentiful both within and outside of PK-12 education for candidates, which, in turn, narrow the candidate pool for employers.

Once again, the survey confirmed the popular wisdom that mathematics and science teachers, especially in the areas of chemistry and physics, are in considerable demand. The numbers of candidates graduating with these certifications/licenses are limited, and those who do graduate with these certification/licensure areas have abundant employment opportunities in settings more lucrative than education.

The inclusion of bilingual education and English as a Second Language (ESL) in this category reflects the increased diversity of the public school student population and a commitment to meet the needs of these students. More and more students are enrolling in the public schools without the

basic English language skills needed to successfully participate in the public schooling process. Employers are recognizing that need and are therefore seeking qualified candidates who can help these students succeed.

As a higher percentage of students is being identified as having special learning needs, employers are increasingly seeking qualified candidates to meet these students' learning needs. Hence the demand for candidates who are certified/licensed in the many areas of identified student learning deficiencies is higher than the supply being produced by teacher training institutions, thereby creating a shortage of certified and qualified candidates to staff the schools. The changing classifications of students with special learning needs exacerbate the shortage and may exceed the teacher training institutions' ability to redesign and implement their certification/licensure programs.

Table 3
National Three-Year Trends

Field	Nat'l 1999	Nat'l 2000	Nat'l 2001	1-year Change	Signif.	3-year Trend
Spec. Ed. - Emotional/Beh. Dis.	4.39	4.59	4.66	.07	B	+
Spec. Ed. - Severe/Profound Dis.	NA	4.51	4.59	.08		+
Mathematics Education	4.18	4.44	4.55	.11	B,D	+
Spec. Ed. - Multicategorical	NA	4.53	4.53	.00		0
Spec. Ed. - Mental Retardation	4.33	4.44	4.49	.05		+
Spec. Ed. - Visually Impaired	4.18	4.38	4.48	.10		+
Spec. Ed. - Learning Disability	4.36	4.46	4.47	.01		+
Spec. Ed. - Mild/Moderate Disabilities	NA	4.45	4.44	-.01		-
Science - Physics	4.26	4.40	4.43	.03	B,D	+
Science - Chemistry	4.17	4.36	4.42	.06	B,D	+
Spec. Ed. - Hearing Impaired	4.25	4.37	4.41	.04		+
Spec. Ed. - Dual Cert. (Gen./Spec.)	NA	4.23	4.37	.14		+
Spec. Ed. - Early Childhood Spec. Ed.	NA	4.20	4.35	.15		+
Bilingual Education	4.32	4.38	4.29	-.09		0
English as a Second Lang Languages - Spanish	3.98	4.19	4.24	.05	B,D	+
Science - Earth/Physical	4.04	4.16	4.17	.01		+
Technology Education	3.90	4.08	4.14	.06	B,D	+
Science - Biology	4.03	4.17	4.11	-.06		0
Science - General	3.88	4.04	4.10	.06	B,D	+
Speech Pathologist	3.86	3.91	4.04	.13	B,D	+
Computer Science Education	4.18	4.02	4.02	.00		0
Audiologist	4.14	4.23	3.98	-.25		0
Principal - High School	3.73	3.71	3.91	.20		0
Library Science/Media Tech.	NA	3.75	3.90	.15		+
Principal - Middle School	3.69	3.80	3.88	.08		+
Superintendent	NA	3.74	3.84	.10		+
Principal - Elementary	NA	3.80	3.84	.04		+
School Psychologist	NA	3.68	3.74	.06		+
School Nurse	3.51	3.65	3.73	.08		+
Agriculture	NA	3.37	3.71	.35	C	+
Counselor	3.50	3.43	3.69	.26		0
Music - Instrumental	3.40	3.62	3.65	.03	B	+
Music - Vocal	3.35	3.53	3.61	.12	B	+
Languages - Japanese	3.31	3.47	3.59	.12	B	+
Home Ec/Consumer Science	3.32	3.52	3.54	.02		+
Reading	3.57	3.52	3.51	-.01		-
Music - General	3.43	3.48	3.51	.03		+
School Social Worker	NA	3.38	3.48	.10		+
Speech Education	3.20	3.47	3.48	.01	S	+
Curriculum Director	2.84	3.33	3.45	.12		+
Gifted/Talented Education	NA	NA	3.44	NA		0
Languages - French	3.56	3.56	3.42	-.14		0
Business Manager	3.29	3.41	3.36	-.05		0
Physical Therapist	NA	3.25	3.36	.11		+
Elementary - Intermediate	NA	3.29	3.36	.07		+
Languages - Classics	3.00	3.22	3.35	.13	B,D	+
Occupational Therapist	3.23	3.34	3.31	-.03		0
Business Education	NA	3.10	3.30	.20		+
English/Language Arts	3.16	3.23	3.28	.05		+
Languages - German	3.05	3.25	3.28	.03	B,D	+
Elementary Pre-K	3.16	3.25	3.27	.02		+
Elementary - Kindergarten	2.88	3.17	3.26	.09	B,D	+
Elementary - Primary	2.89	3.06	3.22	.16	B	+
Human Resources Director	2.86	3.02	3.21	.19	B,C	+
Journalism Education	NA	3.29	3.08	-.21		-
Art/Visual Education	2.90	2.99	3.07	.08		+
Theatre/Drama	2.78	2.90	2.99	.09	B	+
Driver Education Traffic Safety	2.84	2.82	2.99	.17	S	0
Dance Education	2.91	2.86	2.95	.09		0
Social Studies Education	2.76	2.85	2.82	-.03		0
Physical Education	2.45	2.73	2.75	.02	B,D	+
Health Education	2.54	2.60	2.72	.12		+
Composite	2.49	2.56	2.67	.11		+
	3.47	3.56	3.68	.12		+

Some shortage

Fields identified as having some shortage of candidates are those fields in which there is an average demand score of 3.41 to 4.20 on a 5-point scale.

Fields in this category include foreign languages such as Spanish and Japanese, sciences such as biology and general science, and all areas of music education. Special services provided to students such as speech pathology, school psychologists, school nurses, counselors, and social workers also are classified as in some shortage. Speech pathology appears in this category. However, it should be noted that the perceived need for speech pathology was even higher before a change was instituted in the Medicare laws that reduced the speech pathology services that could be reimbursed by Medicare; therefore, more speech pathologists have been available for school positions.

Several administrative areas are included in the "some shortage" category. Superintendents, curriculum directors and principals at all levels—elementary, middle and high school—are all identified in this category. The large numbers of administrators who are either eligible, or approaching eligibility, to retire contribute to this shortage, as do the increased demands for accountability and lessening differential in pay from that of an experienced teacher. In some cases, administrators are rehired immediately, frequently in the same position from which they retired. In some states, they may qualify for, and receive, retirement from state retirement systems at the same time as being rehired. Economic conditions and job stress will play a part in the future resolution of this dilemma. Some states are passing legislation that makes it easier to hire non-traditional candidates as superintendents and principals (i.e., from business/industry).

Table 3 – Key

Significance

B = 2001>1999

C = 2001>2000

D = 2000>1999

S = Significant but no difference among means

Trend

0 = 13 fields

+ = 46 fields

- = 3 fields

Balanced Supply and Demand

Fields identified as “balanced” are those fields in which there is an average demand score of 2.61 to 3.40 on the 5-point scale. For candidates and employers this represents the ideal situation. Candidates have a reasonable expectation of obtaining a desirable position and employers can be reasonably confident of finding qualified, suitable candidates.

The areas in the “balanced” category include some large fields such as all ranges of elementary education, English/language arts, social studies and health and physical education that require large numbers of candidates. A number of areas where there are fewer candidates such as foreign languages including French, German, and the Classics require fewer teachers employed in these fields resulting in a balance. Similarly, business education, journalism, visual arts, theatre/drama, dance, and driver education are balanced due to low supply being able to meet the demand. Two areas that serve the needs of special education students—occupational therapy and physical therapy—fall within the balanced area.

Some Surplus

Fields identified as having some surplus of candidates are those fields in which there is an average demand score of 1.81 to 2.60 on the 5-point scale.

In the past, this category has included fields where many institutions offer training programs and there are large numbers of candidates. These have included social studies, elementary education, and physical education. This year, for the first time in the history of the study, there are no fields in this category.

Considerable Surplus

Fields identified as having considerable surplus of candidates are fields in which there is an average demand score of 1.00 to 1.80 on the 5-point scale.

This category is typically comprised of fields with large number of positions and a larger number of candidates. This is the sixth consecutive year that no fields have fallen within this category.

Changes from the Previous Year

Using a difference of .10 or greater in the national composite score as an indication of change from the previous year, 25 fields listed in Table 1 exhibited a change of at least .10, with 22 reporting increased demand. Three fields reported less demand, including computer science education, gifted

Table 4

Projections of Availability of Teaching and Education-Related Employment Opportunities Based on Current Year (2000-2001)

		Elementary					
		Much Better	Better	Same	Worse	Much Worse	Total
National	n	78	199	181	17	2	477
	%	16.4	41.7	37.9	3.6	0.4	100.0
Region 1	n	1	10	4	1	0	16
	%	6.3	62.5	25.0	6.3	0.0	100.0
Region 2	n	5	12	14	2	0	33
	%	15.2	36.4	42.4	6.1	0.0	100.0
Region 3	n	4	3	4	1	0	12
	%	33.3	25.0	33.3	8.3	0.0	100.0
Region 4	n	4	28	49	1	0	82
	%	4.9	34.1	59.8	1.2	0.0	100.0
Region 5	n	10	18	16	1	0	45
	%	22.2	40.0	35.6	2.2	0.0	100.0
Region 6	n	25	35	25	3	1	89
	%	28.1	39.3	28.1	3.4	1.1	100.0
Region 7	n	10	38	39	4	0	91
	%	11.0	41.8	42.9	4.4	0.0	100.0
Region 8	n	8	40	23	2	1	74
	%	10.8	54.1	31.1	2.7	1.4	100.0
Region 9	n	9	13	7	2	0	31
	%	29.0	41.9	22.6	6.5	0.0	100.0
Region 10	n	0	1	0	0	0	1
	%	0.0	100.0	0.0	0.0	0.0	100.0
Region 11	n	2	1	0	0	0	3
	%	66.7	33.3	0.0	0.0	0.0	100.0
		Secondary					
		Much Better	Better	Same	Worse	Much Worse	Total
National	n	111	240	114	8	2	475
	%	23.4	50.0	24.0	1.7	0.4	100.0
Region 1	n	1	11	4	0	0	16
	%	6.3	68.8	25.0	0.0	0.0	100.0
Region 2	n	4	16	13	1	0	34
	%	11.8	47.1	38.2	2.9	0.0	100.0
Region 3	n	5	4	1	1	0	11
	%	45.5	36.4	9.1	9.1	0.0	100.0
Region 4	n	13	50	16	0	1	80
	%	16.3	62.5	20.0	0.0	1.3	100.0
Region 5	n	16	18	11	0	0	45
	%	35.6	40.0	24.4	0.0	0.0	100.0
Region 6	n	27	39	20	2	1	89
	%	30.3	43.8	22.5	2.2	1.1	100.0
Region 7	n	19	41	26	3	0	89
	%	21.3	46.1	29.2	3.4	0.0	100.0
Region 8	n	14	42	21	1	0	78
	%	17.9	53.8	26.9	1.3	0.0	100.0
Region 9	n	9	18	2	0	0	29
	%	31.0	62.1	6.9	0.0	0.0	100.0
Region 10	n	0	1	0	0	0	1
	%	0.0	100.0	0.0	0.0	0.0	100.0
Region 11	n	3	0	0	0	0	3
	%	100.0	0.0	0.0	0.0	0.0	100.0

Special Education

		Much Better	Better	Same	Worse	Much Worse	Total
National	n	182	151	11	2	2	448
	%	40.6	33.7	24.8	0.4	0.4	100.0
Region 1	n	3	9	4	0	0	16
	%	18.8	56.3	25.0	0.0	0.0	100.0
Region 2	n	12	7	13	0	0	32
	%	37.5	21.9	49.6	0.0	0.0	100.0
Region 3	n	5	3	2	0	0	10
	%	50.0	30.0	20.0	0.0	0.0	100.0
Region 4	n	24	30	20	0	1	75
	%	32.0	40.0	26.7	0.0	1.3	100.0
Region 5	n	22	15	8	0	0	45
	%	48.9	33.3	17.8	0.0	0.0	100.0
Region 6	n	38	26	17	1	1	83
	%	45.8	31.3	20.5	1.2	1.2	100.0
Region 7	n	36	25	22	1	0	84
	%	42.9	29.8	26.2	1.2	0.0	100.0
Region 8	n	24	26	21	0	0	71
	%	33.8	36.6	29.6	0.0	0.0	100.0
Region 9	n	14	10	4	0	0	28
	%	50.0	35.7	14.3	0.0	0.0	100.0
Region 10	n	1	0	0	0	0	1
	%	100.0	0.0	0.0	0.0	0.0	100.0
Region 11	n	3	0	0	0	0	3
	%	100.0	0.00	0.0	0.0	0.0	100.0

and talented education, and human resource director. Four fields reported increased demand of .20 or more (audiology, school nurse, agriculture, and occupational therapist). Two of the fields (computer science education and human resource director) showed decreases of more than .20. One field (school nurse) moved .34 from 2000 to 2001.

National Three-Year Trend Data

This year, AAEE also examined three-year trend data from 1999 to 2001. In this context, the term “trend” indicates identifying the numeric rating of each field/discipline over a three-year period and indicating whether the numbers have moved consistently upward (+ = positive trend), consistently downward (- = negative trend), or have had one score up and one score down (0 = no trend in either direction).

Of the 47 fields with three years of data, 34 exhibited a positive trend over the three years (increased demand each year from 1999 to 2001) as indicated by the “+” in the trend data column in Table 3). A total of twelve fields showed neither a positive nor a negative trend over the three years (“0” in the trend data column), and one field showed a negative trend (“-” in the trend data column).

There were 47 fields for which significance could be measured among 1999, 2000, and 2001 data. Twenty-six fields had no significant difference across the three years. There were significant differences on 21 of the 47 fields, with all but one reflecting increasing demand across the three years (see Table 3 on page 9).

A scheffe post-hoc analysis was conducted on those fields where a significant difference was found. These differences are shown in Table 3. Letter designations indicate which years differ significantly.

Overall, the composite rating for all fields across the United States rose .21 from 1999 to 2001. The national composite ranking shows a positive, consistent increase. However, the national composite, the regional composites, and the teaching field composites mask the variations of selected fields across regions. Additionally, the variations within a region with respect to demand in urban, suburban, and rural school settings are not addressed.

Employment Opportunities:

A Look Ahead

Respondents were asked their expectations of employment opportunities for elementary, secondary, and special education teachers for the 2001-2002 school year

(see Table 4 on page 10). At all three levels more than half of the respondents (58% at the elementary level, 74% at the secondary level, and 74% in the special education field) reported that employment opportunities would be “better” or “much better.”

Table 4 also presents employment opportunity data for the individual regions. Results indicate that there are variations among regions. Caution should be exercised in using regional data because the numbers of responses differ across regions and, in some regions, percentages are unstable.

The Path of Three Decades

Over the decades, AAEE supply/demand research has focused on a range of 48 to 63 fields in education, only recently adding categories of administrators and support services.

Figure 2 on page 12 includes 41 education fields and the data collected regarding relative demand in 1980, 1990, and 2000. The line graph shows clearly that supply is more critical today than it has been in the prior 24 years of the study.

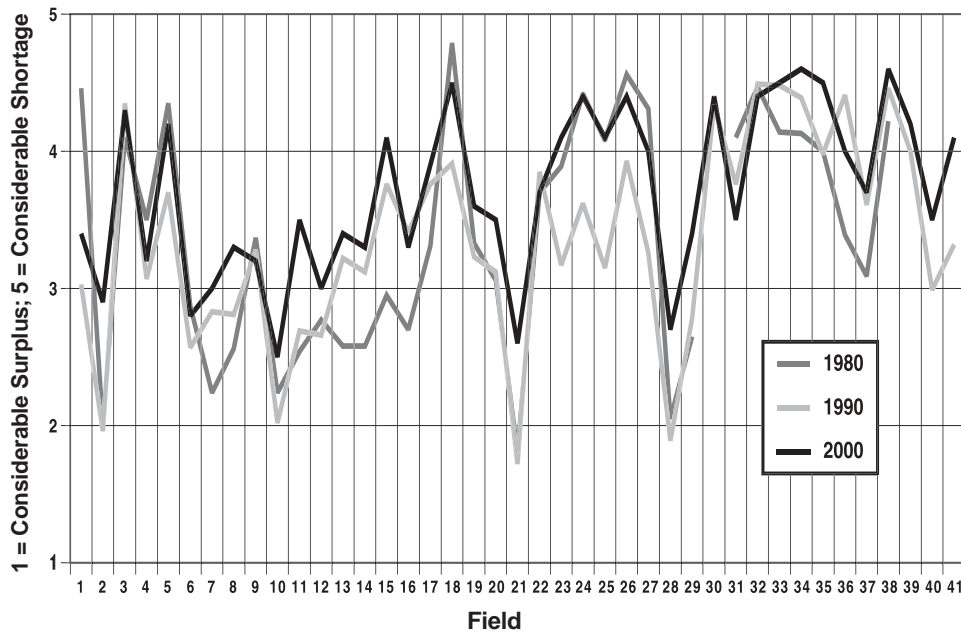
This fact speaks volumes for the status of education in America: rather than getting *closer* to a qualified teacher in every classroom, the data indicate that we are drifting farther from that objective as candidates in all fields are becoming more difficult to find. In historically critical areas—special education, the sciences, and foreign languages—the data indicate significant shortages.

Availability of Minority Candidates

Table 5 on page 13 presents responses to the question of whether colleges and universities expected to see an increase or a decrease in the number of minority teacher candidates in 2001 when compared with 2000. Respondents to this year’s survey have noted very slightly increased numbers of available minority candidates in comparison with last year. Each year the candidate pool has grown minutely, marking a small but steady increase in minority enrollments in elementary, secondary and special education programs. A majority of respondents in all 11 reporting regions still noted no significant changes in numbers of minority candidates, yet increases continue to inch up slightly, while decreases continue to fall. Region 2 (West) institutions reported significant increases at +10%, + 6-9% and +1-5%, while reporting no significant decreases in enrollments. Regions 1, 9, 10, and 11 reported no perceived candidate decreases at the elementary level; Regions 9, 10, and 11 reported no decreases at the secondary

Figure 2

Supply/Demand Across Three Decades

**Fields***

1. Agriculture
2. Art/Visual Education
3. Bilingual Education
4. Business Education
5. Computer Science Ed. (Data Processing)
6. Driver Education
7. Elementary – Primary
8. Elementary – Intermediate
9. English/Language Arts
10. Health Education
11. Home Economics/Consumer Sci.
12. Journalism Education
13. Language – French
14. Language – German
15. Language – Spanish
16. Language – Classics/Other
17. Library Science
18. Mathematics
19. Music – Instrumental
20. Music – Vocal
21. Physical Education
22. School Pshcyologist
23. Biology
24. Chemistry
25. Earth/Physical Science
26. Physics
27. Science – General
28. Social Studies
29. Speech Education
30. Hearing Impaired
31. Gifted/Talented
32. Learning Disability
33. Mental Retardation
34. Multicategorical
35. Special Education – Other
36. Speeh Pathologist
37. Counselor (Elementary/Secondary)
38. E/B Disorder
39. ESL
40. School Social Worker
41. Technology Education (Industrial Arts)

level; and Regions 1, 3, 10, and 11 reported no decreases in special education candidates. All but Region 10 reported some increase in candidates.

Nationally, the lowest percentage of composite positive change was noted in special education (15.6%), whereas the most positive change was at the elementary level (26.1%). Special education, however, also reported the smallest negative change (5.7%), making it the most stable of all categories. The greatest decrease in candidates (a composite of 7.6%) occurred at the secondary level.

Among elementary, secondary, and special education candidates alike, then, there was little overall change in available numbers of minority candidates, with most institutions reporting only slight increases (+1-5%) and slight decreases (-1-5%).

The fact that there have been no real increases in the numbers of minority candidates entering the field of education since 1996, and that perceived changes over previous years remain small, would seem to indicate a great need for reform in recruitment practices.

Program Offerings and Graduates

Table 6 displays data relative to program offerings and teacher surpluses (previous). Teaching fields that have previously been included among those with surplus are now perceived to be in the “balanced” category. These teaching fields include: English/Language Arts, pre-kindergarten, elementary intermediate and elementary primary.

The percentage of responding institutions offering programs considered a surplus in previous years included: social studies, physical education, dance education, health education, and art/visual education. Compared with previous years, teaching fields with the surplus were produced from a substantially higher percentage of institutions offering programs. For example, in 2000, the elementary intermediate education program was offered by approximately 95.3% of responding institutions.

Table 6 also shows program offerings and graduates in selected teaching fields perceived to have the greatest demand. These fields include: speech pathology, bilingual education, emotionally disturbed/behavior disorders, hearing impaired, learning disability and mental retardation. These teaching fields have historically ranked among those with the highest shortages.

Noticeably in contrast to teaching fields historically in the shortage category regarding offering teaching preparation programs, the percentage of institutions offering programs in the newest fields perceived in shortage range from 63.5% (earth/physical science) to 89.5% (mathematics). ESL is the only exception as a teaching program as offered by approximately 21.4% of responding institutions. Teaching fields historically in the shortage category typically have been represented by program offerings by a range of only 17.4% (hearing impaired) to 39.3% (multicategorical/multi-handicapped).

Regarding the production of graduates, the data indicate the teaching fields histori-

* In 1980, categories 30, 39, and 40 were not included. In 1980 and 1990, data were not collected separately for Pre-K and kindergarten. In 2000, Special Education – Other combines visually impaired, mild/moderate, and severe/profound categories.

cally in the shortage category are producing graduates essentially on the same levels as in past years. Within the newest teaching fields added to those with the greatest shortage, three preparation programs — Spanish, mathematics and biology — are producing fewer graduates by over 10% as perceived by respondents.

Since values fluctuate from year to year depending upon responding institutions, caution should be exercised when interpreting data related to changes in program offerings and production of graduates. However, these data should be scrutinized judiciously as more teaching fields, particularly Spanish and the sciences, appear to be fields of greater shortages than in the past.

Factors Affecting the Number of New Hires

The 2001 survey asked respondents to rate whether specific issues had positive or negative influences on the number of teachers to be hired. Respondents shared perceptions concerning the influence of finances, retirement, legislative mandates, demographics, teaching environment, and institutions of higher education.

Tables 7 and 8 (on pages 16 and 17) indicate these perceptions using a scale of 5=significant positive influence to 1=significant negative influence. When comparing the national mean scores from 2001 with 2000, 10 of the 22 topics received lower scores (ranging from -.04 to -.18) in 2001 while 11 topics showed increases (ranging from .01 to .08). One topic maintained the same score.

Seven topics scored below 3.00. The three topics with the lowest scores were School Violence (2.30), Working Conditions (2.51), and Teacher Salaries (2.81) indicating that they were negative influences on teacher hiring. The other four topics below 3.00—home schooling, mobility of experienced teachers, military mobilization, and changing teacher education enrollments—all scored above 2.90 signifying that they were more of a “no influence” than a “negative influence” in hiring opportunities.

Regional differences are noted in Table 8. In all regions except Region 1, 4, and 11, school violence was rated the lowest of all the factors. In Regions 1 and 4, only teacher salaries (2.38 and 2.13) was rated a more negative influence than school violence (2.44 and 2.16); and in Region 11, local funding (1.00) was rated lower than school violence (2.00).

As in the past, early retirement (3.68) and routine retirement (3.57) were the top

Table 5
Availability of Minority Candidates

In general, do you expect to see an increase or decrease in the number of minority teacher candidates this year as compared to last year in teaching fields offered by your institution.

	Elementary						
	+10%	+6-9%	+1-5%	No Change	-1-5%	-6-9%	-10%
National 2001	2.1	2.8	21.2	67.5	4.7	0.6	1.1
National 2000	2.4	3.9	19.3	67.2	5.8	0.6	0.9
National 1999	3.2	4.3	18.1	64.7	8.1	0.4	1.1
National 1998	5.1	6.5	19.4	58.0	8.5	0.9	1.6
National 1997	4.3	4.9	24.3	57.6	7.2	0.4	1.3
National 1996	3.6	3.8	27.1	55.9	5.8	1.6	1.6
Region 1			25.0	75.0			
Region 2	5.9	5.9	29.4	58.8			
Region 3			50.0	41.7	8.3		
Region 4		1.2	7.3	84.1	6.1		1.2
Region 5	6.7	2.2	28.9	46.7	13.3		2.2
Region 6	3.4	2.3	26.4	57.5	5.7	2.3	2.3
Region 7		2.2	22.5	70.8	4.5	1.1	
Region 8		2.7	17.8	76.7	2.7		
Region 9	6.9	6.9	13.8	60.6			
Region 10				100.0			
Region 11		33.3	33.3	33.3			

	Secondary						
	+10%	+6-9%	+1-5%	No Change	-1-5%	-6-9%	-10%
National 2001	1.5	2.7	20.0	68.1	4.6	1.3	1.7
National 2000	2.4	3.2	19.0	67.6	5.6	0.9	1.3
National 1999	2.6	2.4	15.6	68.5	8.4	1.1	1.3
National 1998	3.7	5.7	17.0	64.2	7.1	0.9	1.5
National 1997	2.9	3.7	20.6	63.7	7.0	0.6	1.5
National 1996	3.6	3.4	23.1	61.4	4.6	2.0	1.8
Region 1			25.5	75.0			
Region 2	8.8	5.9	23.5	61.8			
Region 3			27.3	54.5	9.1	9.1	
Region 4		1.2	8.5	84.1	3.7	1.2	1.2
Region 5	4.4	2.2	24.4	53.5	11.1		4.4
Region 6		3.4	22.7	58.0	10.2	1.1	4.5
Region 7		4.5	21.6	70.5	1.1	1.1	1.1
Region 8		1.3	21.8	71.8	2.6	2.6	
Region 9	7.1		17.9	71.4	3.6		
Region 10				100.0			
Region 11		33.3	33.3	33.3			

	Special Education						
	+10%	+6-9%	+1-5%	No Change	-1-5%	-6-9%	-10%
National 2001	1.3	2.5	11.5	78.5	3.2	0.9	1.6
National 2000	2.6	1.7	12.0	74.4	6.7	1.0	1.7
Region 1				100.0			
Region 2	3.4	3.4	10.3	82.8			
Region 3			40.0	60.0			
Region 4			1.3	93.6	2.6	1.3	1.3
Region 5	4.4	4.4	17.8	55.6	13.3	2.2	2.2
Region 6	1.3	2.5	16.5	67.1	6.3	2.5	3.8
Region 7	0.3	5.0	12.5	80.0			1.3
Region 8		1.5	11.8	85.3			1.5
Region 9	8.3		12.5	75.0			4.2
Region 10				100.0			
Region 11		33.3		66.7			

Question was not asked about special education specifically in years prior to 2000.

Table 6

Selected Teaching Fields With Shortages and Surpluses: 1997-1998 through 2000-2001
Relative to Program Offerings and More, Same, or Fewer Graduates

Does your institution offer this curriculum? If yes, how does the number of graduates in 2001 compare with one year earlier?

Field	Year	Program Offered				Total	Graduates						
		Yes	%	No	%		Greater	%	Same	%	Fewer	%	Total
Shortage Fields													
Speech Pathology	97-98	131	29.1	319	70.9	450	11	10.0	80	72.7	19	17.3	110
	98-99	131	29.6	312	70.4	443	10	9.3	75	69.4	23	21.3	108
	99-00	123	31.1	272	68.9	395	18	17.1	66	62.9	21	20.0	105
	00-01	115	24.0	364	76.0	479	11	17.2	45	70.3	8	12.5	64
Bilingual Education	97-98	131	28.4	330	71.6	461	6	8.5	57	80.3	8	11.3	71
	98-99	107	24.1	337	75.9	447	17	19.1	47	52.8	25	28.1	89
	99-00	119	29.6	283	70.4	402	15	14.3	64	61.0	26	24.8	105
	00-01	116	24.0	368	76.0	484	16	17.0	51	54.3	27	28.7	94
Special Education													
Behavior Disorders	97-98	240	51.6	225	48.4	465	29	15.7	111	60.0	45	24.3	185
	98-99	222	50.1	221	49.9	443	31	17.8	98	56.3	45	25.9	174
	99-00	165	41.5	233	58.5	398	31	23.5	75	56.8	26	19.7	132
	00-01	157	32.8	322	67.2	479	29	23.8	72	59.0	21	17.2	122
Multiple Handicapped	97-98	158	35.4	288	64.6	446	18	14.6	75	61.0	30	24.4	123
	98-99	155	36.0	276	64.0	431	21	17.2	74	60.7	27	22.1	122
	99-00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	00-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hearing Impaired	97-98	92	21.2	341	78.8	433	13	16.3	54	67.5	13	16.3	80
	98-99	103	24.2	323	75.8	426	20	22.2	56	62.2	14	15.6	90
	99-00	78	19.9	314	80.1	392	21	29.2	44	61.1	7	9.7	72
	00-01	86	17.9	393	81.9	480	16	22.5	41	57.7	14	19.7	71
Learning Disabled	97-98	301	62.6	180	37.4	481	34	14.6	126	54.1	73	31.3	233
	98-99	292	63.1	171	36.9	463	32	13.8	140	60.3	60	25.9	232
	99-00	206	50.6	201	49.4	407	39	22.9	91	53.6	40	23.5	170
	00-01	196	41.1	281	58.9	477	35	22.0	89	56.0	34	21.4	159
Mentally Handicapped	97-98	254	53.9	217	46.1	471	27	13.3	128	63.1	48	23.6	203
	98-99	242	53.4	211	46.6	453	32	16.9	113	59.8	44	23.3	189
	99-00	136	34.6	257	65.4	393	25	21.7	74	64.4	16	13.9	115
	00-01	133	27.9	344	72.1	477	28	25.2	65	58.6	17	15.3	111
Physically Impaired	97-98	123	28.1	315	71.9	438	13	13.4	63	64.9	21	21.6	97
	98-99	121	28.5	204	71.5	425	18	18.4	60	61.2	20	20.4	98
	99-00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	00-01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Science	00-01	322	67.1	158	32.9	480	50	20	173	69.2	27	10.8	250
ESL	00-01	155	32.2	326	67.8	481	16	12.8	79	63.2	30	24	125
Physics	00-01	342	71.4	137	28.6	479	71	26.2	170	62.7	30	11.1	271
Spanish	00-01	353	73.4	128	26.6	481	54	19.3	175	62.5	51	18.2	280
Earth/Physical Science	00-01	313	64.9	169	35.1	482	50	20.8	161	67.1	29	12.1	240
Mathematics	00-01	442	91.7	40	8.3	482	100	29.4	180	52.9	60	17.6	340
Biology	00-01	440	91.1	43	8.9	483	72	21.1	213	62.5	56	16.4	341
Chemistry	00-01	400	83	82	17	482	79	25.4	187	60.1	45	14.5	311
Balanced/Surplus Fields													
English	97-98	495	92.5	40	7.5	535	48	12.9	251	67.5	73	19.6	372
	98-99	495	94.8	27	5.2	522	57	15.7	240	65.9	67	18.4	364
	99-00	414	94.8	32	7.2	446	51	15.6	215	65.7	61	18.7	327
	00-01	418	86.9	63	13.1	481	48	14.7	233	71.5	45	13.8	326
Elementary													
Pre-kindergarten	97-98	392	77.8	112	22.2	504	33	11.3	164	56.2	95	32.5	292
	98-99	374	78.6	102	21.4	476	28	9.9	163	57.6	92	32.5	283
	99-00	322	74.4	111	25.6	433	29	11.2	168	64.9	62	23.9	259
	00-01	331	68.7	151	31.3	482	28	10.7	170	64.9	64	24.4	262

Field	Year	Program Offered					Graduates						
		Yes	%	No	%	Total	Greater	%	Same	%	Fewer	%	Total
Intermediate	97-98	455	90.6	47	9.4	502	47	13.9	189	55.8	103	30.4	339
	98-99	453	92.4	37	7.6	490	38	11.3	207	61.6	91	27.1	336
	99-00	429	95.3	21	4.7	450	40	11.3	227	64.1	87	24.6	354
	00-01	438	90.9	44	9.1	482	48	14.0	219	63.8	76	22.2	343
Primary	97-98	493	93.7	33	6.3	526	50	13.2	212	56.9	117	30.9	379
	98-99	488	94.9	26	5.1	514	42	11.4	218	59.1	109	29.5	369
	99-00	452	98.0	9	2.0	461	37	9.9	239	63.7	99	26.4	375
	00-01	455	94.4	27	5.6	482	44	12.2	228	63.2	89	24.7	361
Health Education	97-98	241	50.5	236	49.5	477	34	17.9	133	70.0	23	12.1	190
	98-99	230	50.1	229	49.9	459	33	19.4	108	63.5	29	17.1	170
	99-00	227	54.8	187	45.2	414	31	16.8	133	71.9	21	11.4	185
	00-01	225	47.0	254	53.0	479	30	16.0	140	74.9	17	9.1	187
Social Studies	97-98	484	91.0	48	9.0	532	45	12.2	227	61.5	97	26.3	369
	98-99	465	91.4	44	8.6	509	34	9.9	222	64.5	88	25.6	344
	99-00	428	94.1	27	5.9	455	53	15.6	233	68.5	54	15.9	340
	00-01	433	89.8	49	10.2	482	48	14.5	235	71.0	48	14.5	331
Physical Education	00-01	306	63.5	175	36.3	482	31	13.0	169	70.7	39	16.3	239
Dance Education	00-01	43	8.9	439	91.1	482	7	18.9	26	70.3	4	10.8	37
Art/Visual Education	00-01	268	55.5	215	44.5	483	32	14.3	164	73.2	28	12.5	224

two positive influences, although both dropped -.04 from 2000. Both Region 7 (4.16) and Region 8 (4.09) rated early retirement above 4.00, indicating that such incentives were continuing to create hiring opportunities for new teachers.

Student enrollment was the third most positive influence at 3.37, led by Region 2 (3.58), Region 9 (3.55), and Region 8 (3.54).

Class size was the fourth most positive influence at 3.24, with Region 2 exerting the most positive influence on the national mean with a score of 3.94. The ratings from the various regions on class size ranged from 3.94 to 2.90 in Region 3 and 2.00 in Region 11.

Overall, the factors affecting teacher hiring remained constant from 2000 to 2001. Only three areas, federal mandates (-.12), state mandates (-.17), and state funding (-.18) dropped more than -.10 from 2000 to 2001. The range of state funding (4.00 in Region 2 and Region 11 to 2.55 in Region 4) shows the types of state support for public education with some states strongly supporting public education and others not.

Conclusions and Recommendations

The most remarkable, yet not totally surprising, conclusion to be gleaned from the 2001 data collection and analysis is that for the first year—in 25 consecutive years of research—there were no fields nationally that were perceived to have a surplus of candidates. In some regions, there were a few education fields still showing a very slight oversupply. However, the number of

these fields in each region continues to shrink.

As in other years, the preparation of this study brings up additional areas of discussion and research that need to be pursued.

Preparation of Educators: Methods Traditional and Nontraditional

In looking at the AAEE data on programs and changes in enrollments compared with changes in demand by field, it is evident that teacher education programs continue to be unresponsive to changes in market trends. Recognizing that entire collegiate programs cannot be changed overnight, it still appears that colleges do not utilize supply and demand data when determining the expansion or reduction of certification and licensure programs offered.

As the demand for all teachers continues to rise, the educational community will need to look for new paradigms for teacher preparation, i.e., new ways of thinking about how to more effectively and yet efficiently recruit, train, and retain teachers. This new thinking will need to address issues of quality, often defined through student achievement, and at the same time, produce sufficient quantities of these well-qualified professionals.

The Elementary and Secondary Education Act (ESEA), commonly known as “No Child Left Behind,” will no doubt, facilitate changes in how states recruit, prepare, and retain their teachers. Yet, it will be the challenge of those responsible for teacher preparation to find new ways to expedite that process, without losing the quality of the end product—those skills and areas of

knowledge necessary for new teachers to improve student achievement while, at the same time, allowing educators to feel competent and satisfied in their profession.

These are admirable goals for education, but will need to be addressed not only through federal mandates, but also through additional research on teacher quality and the effects of alternative routes to teacher certification on both student achievement and the teacher workforce.

Ways in which higher education institutions respond to this challenge will be foundational to the success or failure of the future of public education. Those who are able to regroup, rethink, and reconstruct teacher education programs, through substantial partnerships with their local school districts and in collaboration with state agencies as well as the business and political communities, will most likely be the leaders in this paradigm switch.

Alternative routes to securing certification/licensure have received considerable attention. This situation poses a significant threat to traditional programs preparing teachers and other professional educators, particularly in an environment where the number of positions to be filled exceeds the number of persons being prepared. The threat is that the traditional programs have the potential to lose enrollment to the alternative programs, as well as to lose their relative monopoly over the process of recommendation for certification/licensure.

An Educator's Career

The AAEE research indicates that many factors are increasing the demand for educators: retirements, increasing pre-K-12 enrollments, smaller class sizes, etc. However, the research for the past two years also has shown that there are three factors negatively influencing the supply of new educators: teaching environment/working conditions, salaries, and school violence.

Further research and discussion about recruiting individuals into the education profession must seriously come to grips with enhancing the status of the career, as well as ameliorating the negative factors that deter individuals from entering the field. Beyond those mentioned above, there are enormous pressures on educators:

- ❖ Testing for licensure, regardless of years of experience.
- ❖ Testing of preK-12 students and “performance pressure” (perhaps salary considerations) based upon the performance of

students on standardized tests.

- ❖ Expectations to serve in multiple roles simultaneously, even when these roles may be in conflict with one another:

- educator,
- evaluator,
- nurturer,
- diagnostician,
- counselor,
- family social worker,
- manager, and
- leader.

Reducing the Dissonance of Standards

The preparation of educators is likely to take place in myriad learning environments. However, program development needs to continually evaluate the paradox that occurs in many states regarding:

- ❖ Increasing the standards for educators, lengthening preparation programs to meet these standards, and increasing testing requirements for educators (usu-

ally different from state to state), yet, simultaneously creating alternative methods for getting educators who are far below the standards mentioned above into classrooms, providing emergency licensing to individuals who lack the educational qualifications, and lowering the standards for substitute teachers, sometimes to the level of a high school diploma.

Implications for the Fields of Special Education

The data collected in the 2001 survey once again suggest that special education fields lead the pack nationally and regionally in the need for qualified personnel to teach students with disabilities. Specifically, 10 different categories of special education certification ranked in the category of considerable shortage area this year. Ten years ago, only five categories of disabilities (ED/BD, Multihandicapped, LD, MR, and deaf

Table 7

Factors Affecting Hiring Opportunities – National Frequency and Mean

5 = Significant Positive Influence; 4 = Moderate Positive Influence; 3 = No Influence; 2 = Moderate Negative Influence; 1 = Significant Negative Influence

Factors	5	4	3	2	1	2001 N	2001 Average	2000 Average	1999 Average
<i>Pre-K – 12 Schools</i>									
Finances									
Federal Funding	33	124	186	79	14	436	3.19	3.25	3.23
State Funding	57	140	77	116	57	447	3.05	3.23	3.34
Local Funding	40	127	127	115	33	442	3.06	3.12	3.12
Retirement									
Postponed Retirement	23	87	221	83	9	423	3.08	3.00	3.05
Routine Retirement	52	207	129	48	6	442	3.57	3.61	3.79
Early Retirement	96	181	107	50	10	444	3.68	3.72	3.98
Legislative Mandates									
State	37	125	121	99	40	422	3.05	3.22	3.30
Federal	17	102	203	80	16	418	3.06	3.18	3.22
Demographic Shifts in Population									
Limited English Proficient Students	42	108	186	80	7	423	3.23	3.20	3.39
Rural/Suburban/Urban Shifts - Teachers	13	94	231	78	8	424	3.06	3.01	3.24
Rural/Suburban/Urban Shifts - Students	17	106	213	69	10	415	3.12	3.08	3.33
Student Enrollment	47	181	105	81	17	431	3.37	3.32	3.67
Private Schools/Home Schooling	3	52	279	91	5	430	2.90	2.88	2.99
Class Size	34	155	136	100	9	434	3.24	3.33	3.53
Military Demobilization	2	17	366	29	2	416	2.97	3.01	2.99
Teaching Environment									
Teacher Salaries	43	117	82	131	80	453	2.81	2.75	NA
Teacher Benefits	33	135	133	97	50	448	3.01	2.93	NA
School Violence	12	25	130	209	78	454	2.30	2.30	NA
Working Conditions	22	44	140	187	61	454	2.51	2.50	NA
<i>Institutions of Higher Education</i>									
Changing Teacher Education Enrollments	20	122	160	132	19	453	2.98	3.02	3.20
Mobility of New Graduates	24	137	132	131	24	448	3.01	2.98	3.13
Mobility of Experienced Teachers	21	88	184	125	23	441	2.91	2.89	3.00

Table 8**Factors Affecting Hiring Opportunities – Regional and National Means**

5 = Significant Positive Influence; 4 = Moderate Positive Influence; 3 = No Influence; 2 = Moderate Negative Influence; 1 = Significant Negative Influence

Factors	Region											Nat'l 2001	Nat'l 2000
	1 n=16	2 n=33	3 n=11	4 n=76	5 n=43	6 n=91	7 n=84	8 n=77	9 n=28	10 n=1	11 n=2		
<i>Pre-K – 12 Schools</i>													
Finances													
Federal Funding	3.31	3.50	3.36	2.89	3.19	3.24	3.32	3.25	2.82	3.00	4.00	3.19	3.25
State Funding	3.00	4.00	2.64	2.55	3.23	2.87	3.35	3.11	2.79	3.00	4.00	3.05	3.23
Local Funding	3.13	3.23	2.73	2.74	3.16	2.95	3.35	3.18	2.89	3.00	1.00	3.06	3.12
Retirement													
Postponed Retirement	3.23	3.18	2.82	3.11	3.19	3.02	3.08	3.01	2.95	3.00	4.00	3.08	3.00
Routine Retirement	3.53	3.23	3.36	3.37	3.09	3.46	4.05	3.70	3.88	3.00	3.50	3.57	3.61
Early Retirement	3.47	3.17	3.70	3.44	3.12	3.51	4.16	4.09	3.93	3.00	3.00	3.68	3.72
Legislative Mandates													
State Mandates	3.08	3.57	3.00	2.65	3.00	2.89	3.43	3.12	2.57	3.00	4.50	3.05	3.22
Federal Mandates	3.17	3.04	3.10	2.83	3.05	3.01	3.31	3.12	2.86	3.00	2.00	3.06	3.18
Demographics													
Limited English Proficient Students	3.20	3.48	3.09	3.17	3.14	3.17	3.31	3.25	3.23	3.00	3.50	3.23	3.20
Rural/Suburban/Urban Shifts - Teachers	3.31	3.00	3.20	2.89	3.14	3.12	3.09	3.07	3.00	3.00	2.50	3.06	3.01
Rural/Suburban/Urban Shifts - Students	3.25	3.08	3.20	2.93	3.02	3.19	3.22	3.18	3.05	3.00	3.50	3.12	3.08
Student Enrollment	3.19	3.58	3.40	3.03	3.05	3.47	3.51	3.54	3.55	3.00	3.50	3.37	3.32
Private Schools/Home Schooling	2.93	2.90	2.70	2.90	2.95	2.84	2.95	2.87	2.91	3.00	3.50	2.90	2.88
Class Size	3.19	3.94	2.90	2.92	3.19	3.23	3.42	3.28	3.05	3.00	2.00	3.24	3.33
Military Demobilization	3.00	3.10	3.00	2.97	2.95	3.00	2.95	2.97	2.86	3.00	2.00	2.97	3.01
Teaching Environment													
Teacher Salaries	2.38	2.87	2.64	2.13	2.67	2.78	2.95	3.50	2.85	2.00	3.00	2.81	2.75
Teacher Benefits	2.80	3.13	3.00	2.39	2.83	3.02	3.06	3.61	3.11	3.00	3.00	3.01	2.93
School Violence	2.44	2.23	2.18	2.16	2.30	2.36	2.49	2.24	2.22	2.00	2.00	2.30	2.30
Working Conditions	2.50	2.53	2.82	2.29	2.42	2.49	2.72	2.56	2.44	3.00	2.00	2.51	2.50
<i>Institutions of Higher Education</i>													
Education Enrollments	2.94	3.39	2.91	2.79	2.86	2.92	3.08	3.00	3.15	3.00	2.50	2.98	3.02
Mobility of New Graduates	2.81	3.06	3.18	2.82	2.98	2.98	3.08	3.13	3.23	3.00	2.50	3.01	2.98
Mobility of Experienced Teachers	2.80	3.13	3.18	2.72	2.93	2.85	2.94	2.92	3.12	3.00	3.00	2.91	2.89

education) were included in the critical shortage area, along with speech pathology. Twenty years ago only one category of disability (LD) was in the critical shortage area.

This trend toward all areas of special education teacher preparation programs underserving the needs of local school districts is alarming to both school districts charged with the free and appropriate education of all students with disabilities and to the parents of students with disabilities who depend on local districts to provide those services. Yet, state departments of education and colleges of education continue to respond slowly to the need for more programs to prepare special educators and support systems to retain them in the field after graduation.

With the numbers of special education students rising sharply over the past 10 years, these shortages will only increase as large numbers of special education teachers begin to retire over the next three to five years. As a result of the passage of P.L. 94-142 (the 1974 federal law mandating special education services in public school

settings), thousands of special education personnel entered the workforce simultaneously. These professionals will now be approaching retirement en masse, due to their common entry date into the field. For example, one school district predicts 60% of its special education teachers will retire over the next two to three years. Similar forecasts have been reported in other districts nationwide.

In order to address this ongoing significant shortage, policies and programs must be designed to address the personnel needs of school districts and the continued integrity of the field of special education to:

- ❖ ensure that all teachers are adequately prepared to serve the needs of students with disabilities in multiple classroom settings;
- ❖ utilize early and meaningful preservice classroom experiences that instill the skills, knowledge, and confidence to serve the needs of students;
- ❖ implement practices that support the role of new teachers by ensuring classroom assignments that match preparation, and

mentoring to enable novices to become skilled and competent practitioners.

The field of special education is a demanding and rewarding career. Yet, without performance-based preparation and critical support for retention in the field, it will continue to be staffed with uncertified individuals, moving through a revolving door, seeking entrance into other careers. Students with disabilities will pay the price.

Each issue requires further study of the positive or negative impacts on the profession, and particularly, on the supply and demand of educators to fill positions in our nation's schools.

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Appendix A

**2001 AAEE Supply and Demand Survey *
Response Rate**

Region	Members			Non-Members			Total		
	Sent	Returned	%	Sent	Returned	%	Sent	Returned	%
1	27	15	56	11	1	9	38	16	42
2	35	20	57	48	14	29	83	34	41
3	18	8	44	11	4	36	29	12	41
4	105	71	68	42	13	31	147	84	57
5	48	31	65	78	14	18	126	45	36
6	81	42	52	205	50	24	286	92	32
7	139	78	56	69	18	26	208	96	46
8	122	50	41	110	31	28	232	81	35
9	41	20	49	68	10	15	109	30	28
10	1	1	100	4	0	0	5	1	20
11	1	1	100	3	2	67	4	3	75
Total	618	337	55	649	157	24	1267	494	39
2000 Response Rate									
Total	618	309	50	649	145	22	1267	454	35

* Numbers may not sum to total due to missing data by region.

Appendix B

Intraclass Correlations Across 48 Teaching Fields for Longitudinal Studies of Supply and Demand

	ASCUS 95	AAEE 96	AAEE 97	AAEE 98	AAEE 99	AAEE 2000	AAEE 2001	SEASCUS 94	MAASCUS 95	GLASCUS 97
ASCUS 95	1.0 0.0	.99 .0001	.98 .0001	.97 .0001	.93 .0001	.91 .0001	.83 .0001	.92 .0001	.82 .0001	.85 .0001
AAEE 96		1.0 0.0	.99 .0001	.99 .0001	.94 .0001	.93 .0001	.85 .0001	.31 .0001	.81 .0001	.84 .0001
AAEE 97			1.0 0.0	.99 .0001	.95 .0001	.95 .0001	.88 .0001	.89 .0001	.80 .0001	.83 .0001
AAEE 98				1.0 0.0	.95 .0001	.96 .0001	.90 .0001	.87 .0001	.77 .0001	.80 .0001
AAEE 99					1.0 0.0	.99 .0001	.93 .0001	.80 .0001	.70 .0001	.74 .0001
AAEE 2000						1.0 0.0	.95 .0001	.78 .0001	.66 .0001	.70 .0001
SEASCUS 94							1.0 0.0	1.0 0.0	.90 .0001	.93 .0001
MAASCUS 95									1.0 0.0	.97 .0001
GLASCUS 97										1.0 0.0

Appendix C

Regional Relative Demand By Teaching Area

Region 1 Idaho, Oregon, Washington

Considerable Shortage (4.21-5.00)

Spec. Ed. - Emotional/Beh. Dis.	4.57
Science - Chemistry	4.54
Bilingual Education	4.50
Spec. Ed. - Multicategorical	4.50
Spec. Ed. - Mental Retardation	4.50
Science - Physics	4.46
English as a Second Language	4.44
Spec. Ed. - Learning Disability	4.43
Spec. Ed. - Severe/Profound Dis.	4.40
Spec. Ed. - Early Childhood Spec. Ed.	4.38
Mathematics Education	4.36
Spec. Ed. - Mild/Moderate Disabilities	4.33
Spec. Ed. - Dual Cert. (Gen./Spec.)	4.29
Superintendent	4.25
Principal - High School	4.22

Elementary Pre-K	2.89
Theatre/Drama	2.80
Art/Visual Education	2.75
Elementary - Kindergarten	2.71
Health Education	2.67

Some Surplus (1.81-2.60)

Social Studies Education	2.57
Physical Education	2.55
Dance Education	2.50

Considerable Surplus (1.00-1.80)

None

Fields with No Data

Driver Education Traffic Safety

Some Shortage (3.41-4.20)

Computer Science Education	4.17
Science - Earth/Physical	4.10
Languages - Spanish	4.08
Science - Biology	4.08
Science - General	4.08
Spec. Ed. - Hearing Impaired	4.00
Spec. Ed. - Visually Impaired	4.00
Library Science/Media Tech.	4.00
Physical Therapist	4.00
School Nurse	4.00
School Psychologist	4.00
Speech Pathologist	4.00
Counselor	3.90
Principal - Middle School	3.78
Technology Education	3.71
Home Ec/Consumer Science	3.67
Principal - Elementary	3.67
Music - Vocal	3.58
Music - General	3.55
Music - Instrumental	3.50
Reading	3.50
Human Resources Director	3.50
Business Manager	3.50
Curriculum Director	3.50
Languages - Japanese	3.43

Balanced Supply and Demand (2.61-3.40)

Elementary - Intermediate	3.36
Business Education	3.33
Audiologist	3.33
Speech Education	3.22
Languages - French	3.20
English/Language Arts	3.14
Agriculture	3.00
Elementary - Primary	3.00
Journalism Education	3.00
Languages - Classics	3.00
Gifted/Talented Education	3.00
Occupational Therapist	3.00
School Social Worker	3.00
Languages - German	2.90

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, bilingual education, and ESL are reported as in “considerable shortage.”
- ❖ Superintendents and high school principals are also reported as in “considerable shortage.”
- ❖ Social studies, physical education, and dance are reported in “some surplus.”

Observations and Comments

- ❖ New teachers willing to look outside the major metro areas will find opportunities.

Regional Relative Demand By Teaching Area

Region 2 Arizona, California, Nevada, Utah

Considerable Shortage (4.21-5.00)

Mathematics Education	4.83
Science - Earth/Physical	4.54
Science - Physics	4.52
Science - Chemistry	4.48
Spec. Ed. - Multicategorical	4.45
Spec. Ed. - Emotional/Beh. Dis.	4.44
Spec. Ed. - Mental Retardation	4.44
Spec. Ed. - Dual Cert. (Gen./Spec.)	4.44
Science - Biology	4.39
Science - General	4.36
Spec. Ed. - Severe/Profound Dis.	4.31
Bilingual Education	4.29
Spec. Ed. - Hearing Impaired	4.29
Technology Education	4.29
English as a Second Language	4.27
Spec. Ed. - Learning Disability	4.27
Spec. Ed. - Mild/Moderate Disabilities	4.25
Spec. Ed. - Early Childhood Spec. Ed.	4.22

Home Ec/Consumer Science	2.82
Physical Education	2.77
Business Education	2.75
Languages - French	2.70
Health Education	2.69
Art/Visual Education	2.67

Some Surplus (1.81-2.60)

Social Studies Education	2.44
Dance Education	2.43

Considerable Surplus (1.00-1.80)

None

Some Shortage (3.41-4.20)

Agriculture	4.00
Spec. Ed. - Visually Impaired	4.00
Languages - Spanish	3.96
Principal - High School	3.94
Elementary - Intermediate	3.93
Principal - Middle School	3.88
Elementary - Primary	3.83
Principal - Elementary	3.82
School Psychologist	3.80
English/Language Arts	3.79
Elementary - Kindergarten	3.73
Reading	3.69
Music - Instrumental	3.68
Computer Science Education	3.67
Elementary Pre-K	3.67
Audiologist	3.67
School Nurse	3.67
Counselor	3.58
Superintendent	3.57
School Social Worker	3.57
Speech Pathologist	3.57
Music - Vocal	3.50
Business Manager	3.50
Occupational Therapist	3.50
Gifted/Talented Education	3.43

Balanced Supply and Demand (2.61-3.40)

Speech Education	3.40
Human Resources Director	3.33
Curriculum Director	3.33
Music - General	3.30
Languages - Classics	3.29
Driver Education Traffic Safety	3.00
Languages - Japanese	3.00
Library Science/Media Tech.	3.00
Physical Therapist	3.00
Theatre/Drama	2.89
Languages - German	2.87
Journalism Education	2.83

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, bilingual education, ESL, and technology education are reported as in “considerable shortage,” as are the science fields of earth/physical, biology, and general science.
- ❖ “Some surplus” is reported for social studies and dance education.

Observations and Comments

- ❖ Decline in rural populations reduces demand for teachers in rural areas. Complicating the issue is that candidates prefer to remain in the area rather than go where the jobs are.
- ❖ State and local level policies are impacting higher education teacher preparation programs. The effect of these policies is an increase in the demand for and a decrease in the supply of educators.

Regional Relative Demand By Teaching Area

Region 3

Colorado, Montana, New Mexico, Wyoming

Considerable Shortage (4.21 - 5.00)

Spec. Ed. - Visually Impaired	5.00
Speech Education	5.00
Mathematics Education	4.89
Bilingual Education	4.80
Languages - Spanish	4.71
Spec. Ed. - Multicategorical	4.60
Science - Earth/Physical	4.57
Spec. Ed. - Emotional/Beh. Dis.	4.50
Spec. Ed. - Severe/Profound Dis.	4.50
Science - Chemistry	4.44
Science - General	4.44
English as a Second Language	4.40
Science - Biology	4.40
Science - Physics	4.29
Spec. Ed. - Mild/Moderate Disabilities	4.25

Some Shortage (3.41 - 4.20)

Computer Science Education	4.00
Languages - Japanese	4.00
Spec. Ed. - Learning Disability	4.00
Spec. Ed. - Mental Retardation	4.00
Spec. Ed. - Early Childhood Spec. Ed.	4.00
Gifted/Talented Education	4.00
School Psychologist	4.00
Music - General	3.80
Spec. Ed. - Hearing Impaired	3.67
Music - Instrumental	3.63
Music - Vocal	3.63
Elementary - Intermediate	3.60
Languages - German	3.60
Languages - Classics	3.50
English/Language Arts	3.44

Balanced Supply and Demand (2.61 - 3.40)

Physical Education	3.38
Elementary - Primary	3.36
Technology Education	3.33
Library Science/Media Tech.	3.33
Languages - French	3.20
Reading	3.20
Principal - Middle School	3.20
Principal - Elementary	3.17
Principal - High School	3.17
Counselor	3.14
Elementary - Kindergarten	3.11
Business Education	3.00
Dance Education	3.00
Driver Education Traffic Safety	3.00
Elementary Pre-K	3.00
Superintendent	3.00
Curriculum Director	3.00
Occupational Therapist	3.00
School Social Worker	3.00
Social Studies Education	2.91
Art/Visual Education	2.89
Health Education	2.67
Theatre/Drama	2.67

Some Surplus (1.81 - 2.60)

None

Considerable Surplus (1.00 - 1.80)

None

Fields with No Data

Agriculture	0.00
Home Ec/Consumer Science	0.00
Journalism Education	0.00
Spec. Ed. - Dual Cert. (Gen./Spec.)	0.00
Human Resources Director	0.00
Business Manager	0.00
Audiologist	0.00
Physical Therapist	0.00
School Nurse	0.00
Speech Pathologist	0.00

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, bilingual education, and ESL are all reported as in “considerable shortage.”
- ❖ In addition, library science/media technology, computer science, technology education and Spanish are also reported as in “considerable shortage.”
- ❖ As was true for the national trends, no fields are reported in surplus.

Observations and Comments

- ❖ Low salaries, coupled with local economic downturns, have contributed to the loss of highly qualified teaching and administrative candidates.

Regional Relative Demand By Teaching Area

Region 4

Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

Considerable Shortage (4.21 - 5.00)

Spec. Ed. - Severe/Profound Dis.	4.79
Mathematics Education	4.70
Spec. Ed. - Emotional/Beh. Dis.	4.70
Spec. Ed. - Hearing Impaired	4.59
Spec. Ed. - Mental Retardation	4.59
Spec. Ed. - Learning Disability	4.58
Spec. Ed. - Visually Impaired	4.56
Spec. Ed. - Mild/Moderate Disabilities	4.51
Spec. Ed. - Multicategorical	4.50
Science - Chemistry	4.46
Science - Physics	4.46
Spec. Ed. - Dual Cert. (Gen./Spec.)	4.45
Spec. Ed. - Early Childhood Spec. Ed.	4.39
English as a Second Language	4.31
Library Science/Media Tech.	4.31
Computer Science Education	4.25
Technology Education	4.25
Languages - Spanish	4.21

Human Resources Director	3.00
Physical Therapist	3.00
Languages - Classics	2.90
Elementary - Primary	2.88
Health Education	2.80
Social Studies Education	2.73
Occupational Therapist	2.67

Some Surplus (1.81 - 2.60)

Physical Education	2.54
Dance Education	2.25

Considerable Surplus (1.00 - 1.80)

None

Some Shortage (3.41 - 4.20)

Bilingual Education	4.20
Science - Earth/Physical	4.15
Speech Pathologist	4.12
Agriculture	4.11
Audiologist	4.08
Science - Biology	4.07
Counselor	4.04
Music - Instrumental	4.00
Superintendent	4.00
School Psychologist	4.00
Music - Vocal	3.95
Home Ec/Consumer Science	3.94
Principal - High School	3.93
Music - General	3.92
Science - General	3.90
Principal - Middle School	3.86
Business Education	3.71
Principal - Elementary	3.68
School Nurse	3.64
School Social Worker	3.59
Reading	3.49
Gifted/Talented Education	3.44
English/Language Arts	3.41

Balanced Supply and Demand (2.61 - 3.40)

Curriculum Director	3.40
Languages - French	3.35
Languages - German	3.35
Driver Education Traffic Safety	3.25
Speech Education	3.25
Business Manager	3.20
Art/Visual Education	3.18
Languages - Japanese	3.13
Elementary Pre-K	3.11
Journalism Education	3.09
Elementary - Intermediate	3.07
Theatre/Drama	3.06
Elementary - Kindergarten	3.03

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, bilingual education, and ESL are all reported as in “considerable shortage,” as are library science/media technology, computer science, technology education, and Spanish.
- ❖ Areas reported in “some surplus” include physical education and dance education.

Observations and Comments

- ❖ Low salaries and reluctance of candidates to leave the area to pursue employment contribute to the shortage of candidates.
- ❖ Declining student enrollment in rural areas has caused teacher layoffs.
- ❖ Projected retirements over the next five to ten years will increase demand.
- ❖ The status of teaching as a profession, coupled with financial and political stressors, contributes to a shortage of candidates in teacher education programs.

Regional Relative Demand By Teaching Area

Region 5

Arkansas, Louisiana, Oklahoma, Texas

Considerable Shortage (4.21-5.00)

Spec. Ed. - Severe/Profound Dis.	4.92
Spec. Ed. - Early Childhood Spec. Ed.	4.81
Bilingual Education	4.80
Spec. Ed. - Emotional/Beh. Dis.	4.79
Spec. Ed. - Visually Impaired	4.75
Spec. Ed. - Learning Disability	4.73
Spec. Ed. - Mental Retardation	4.73
Spec. Ed. - Multicategorical	4.71
Spec. Ed. - Dual Cert. (Gen./Spec.)	4.70
Mathematics Education	4.57
Spec. Ed. - Mild/Moderate Disabilities	4.56
English as a Second Language	4.50
Science - Chemistry	4.45
Languages - Spanish	4.39
Spec. Ed. - Hearing Impaired	4.36
Science - Physics	4.29
Languages - Japanese	4.25
Science - Earth/Physical	4.23

Art/Visual Education	2.96
Theatre/Drama	2.91
Business Education	2.90
Driver Education Traffic Safety	2.77
Health Education	2.65

Some Surplus (1.81-2.60)

Business Manager	2.60
Physical Education	2.51
Human Resources Director	2.43

Considerable Surplus (1.00-1.80)

None

Some Shortage (3.41-4.20)

Science - General	4.17
Science - Biology	4.16
Technology Education	4.05
Computer Science Education	4.00
School Nurse	3.86
Elementary Pre-K	3.76
Audiologist	3.75
Elementary - Intermediate	3.71
Elementary - Kindergarten	3.67
Elementary - Primary	3.67
Languages - Classics	3.67
Speech Pathologist	3.67
Languages - French	3.64
Reading	3.56
Library Science/Media Tech.	3.50
Physical Therapist	3.50
English/Language Arts	3.45
Languages - German	3.45
Music - Instrumental	3.44
Counselor	3.44
Music - Vocal	3.42

Balanced Supply and Demand (2.61-3.40)

Home Ec/Consumer Science	3.40
Principal - Middle School	3.40
Principal - High School	3.40
School Psychologist	3.40
Speech Education	3.33
Superintendent	3.32
Principal - Elementary	3.31
Gifted/Talented Education	3.29
School Social Worker	3.27
Occupational Therapist	3.25
Curriculum Director	3.21
Music - General	3.17
Agriculture	3.15
Dance Education	3.00
Journalism Education	3.00
Social Studies Education	3.00

Data Trends

- ✦ The fields of special education, mathematics, physics, chemistry, bilingual education, and ESL are all reported as in “considerable shortage,” as are Spanish, Japanese, and earth/physical science.
- ✦ No fields were reported in “surplus” categories.

Observations and Comments

- ✦ The demand is influenced by poor teacher retention rates due to lack of administrative and parental support and poor working conditions, including low salaries, school violence, discipline problems, and a litigious society.

Regional Relative Demand By Teaching Area

Region 6

Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia, West Virginia

Considerable Shortage (4.21-5.00)

Spec. Ed. - Severe/Profound Dis.	4.80
Spec. Ed. - Emotional/Beh. Dis.	4.77
Spec. Ed. - Learning Disability	4.62
Spec. Ed. - Mild/Moderate Disabilities	4.62
Spec. Ed. - Mental Retardation	4.61
Spec. Ed. - Early Childhood Spec. Ed.	4.61
Mathematics Education	4.60
Spec. Ed. - Multicategorical	4.57
Spec. Ed. - Dual Cert. (Gen./Spec.)	4.56
Spec. Ed. - Hearing Impaired	4.50
Science - Chemistry	4.47
Science - Physics	4.47
Spec. Ed. - Visually Impaired	4.43
Science - Biology	4.28

Theatre/Drama	3.05
Social Studies Education	3.04
Dance Education	3.00
Business Manager	3.00
Physical Education	2.95
Art/Visual Education	2.89
Human Resources Director	2.83
Driver Education Traffic Safety	2.78
Health Education	2.75

Some Surplus (1.81-2.60)

None

Considerable Surplus (1.00-1.80)

None

Some Shortage (3.41-4.20)

Languages - Spanish	4.19
English as a Second Language	4.17
Science - General	4.17
Science - Earth/Physical	4.10
Speech Education	4.00
Speech Pathologist	3.96
Computer Science Education	3.92
Principal - High School	3.91
Principal - Middle School	3.85
Technology Education	3.83
Audiologist	3.83
Bilingual Education	3.80
School Nurse	3.78
Library Science/Media Tech.	3.74
Occupational Therapist	3.73
Principal - Elementary	3.69
Agriculture	3.67
Languages - Classics	3.67
Counselor	3.67
Elementary - Primary	3.65
Elementary - Kindergarten	3.64
Elementary - Intermediate	3.63
Languages - French	3.63
Elementary Pre-K	3.61
Physical Therapist	3.58
Reading	3.53
School Social Worker	3.52
School Psychologist	3.48
English/Language Arts	3.47
Languages - German	3.47
Superintendent	3.47
Gifted/Talented Education	3.41

Balanced Supply and Demand (2.61-3.40)

Home Ec/Consumer Science	3.38
Music - Instrumental	3.38
Music - General	3.35
Languages - Japanese	3.33
Curriculum Director	3.33
Music - Vocal	3.31
Business Education	3.16
Journalism Education	3.14

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, and biology are reported as in “considerable shortage.”

Observations and Comments

- ❖ The loss of student enrollment and economic downturns have contributed to decreased demand for teachers in some areas.
- ❖ Problems related to state funding of programs affect students’ interest in pursuing the field and contribute to practicing teachers’ dissatisfaction.
- ❖ Candidates are reluctant to leave their home areas.
- ❖ Issues regarding accountability and teacher licensure requirements have caused states to lose otherwise qualified candidates to other fields.
- ❖ The discrepancy between states’ degree program requirements and the requirements for alternative certification programs impact the teacher candidate pool.

Regional Relative Demand By Teaching Area

Region 7

Illinois, Indiana, Michigan, Ohio, Wisconsin

Considerable Shortage (4.21-5.00)

Spec. Ed. - Emotional/Beh. Dis.	4.53
Spec. Ed. - Multicategorical	4.50
Mathematics Education	4.45
Speech Pathologist	4.41
Spec. Ed. - Visually Impaired	4.40
Science - Physics	4.38
Science - Chemistry	4.29
Spec. Ed. - Learning Disability	4.28
Technology Education	4.28
Spec. Ed. - Severe/Profound Dis.	4.26
Spec. Ed. - Hearing Impaired	4.25
Spec. Ed. - Mental Retardation	4.24
Languages - Spanish	4.22
Spec. Ed. - Mild/Moderate Disabilities	4.21

Some Shortage (3.41-4.20)

Spec. Ed. - Dual Cert. (Gen./Spec.)	4.19
Library Science/Media Tech.	4.19
Bilingual Education	4.12
Agriculture	4.00
English as a Second Language	4.00
Languages - Japanese	4.00
Superintendent	4.00
Audiologist	4.00
Science - Earth/Physical	3.96
Science - General	3.95
Principal - High School	3.95
School Nurse	3.93
School Social Worker	3.92
Science - Biology	3.90
School Psychologist	3.90
Principal - Middle School	3.89
Computer Science Education	3.88
Spec. Ed. - Early Childhood Spec. Ed.	3.88
Home Ec/Consumer Science	3.82
Principal - Elementary	3.82
Counselor	3.75
Music - Vocal	3.72
Music - Instrumental	3.68
Business Manager	3.64
Business Education	3.62
Music - General	3.62
Physical Therapist	3.58
Reading	3.50
Occupational Therapist	3.50
Curr. Director	3.43
Gifted/Talented Education	3.41

Balanced Supply and Demand (2.61-3.40)

Languages - French	3.37
Languages - German	3.27
Elementary Pre-K	3.24
Speech Education	3.24
Human Resources Director	3.18
Elementary - Intermediate	3.11
Languages - Classics	3.11
Elementary - Kindergarten	3.10
Journalism Education	3.09
Dance Education	3.08

12	English/Language Arts	3.03
46	Theatre/Drama	3.03
2	Art/Visual Education	2.98
10	Elementary - Primary	2.96
7	Driver Education Traffic Safety	2.83
26	Physical Education	2.82
14	Health Education	2.63

Some Surplus (1.81-2.60)

	Social Studies Education	2.60
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Considerable Surplus (1.00-1.80)

None

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, technology education, Spanish, and speech pathology are reported as in “considerable shortage.”
- ❖ No fields are reported in the “surplus” categories.

Observations and Comments

- ❖ Candidates tend to want to stay in their home areas.

Regional Relative Demand By Teaching Area

Region 8

Delaware, District of Columbia, Maryland, New Jersey, New York, Pennsylvania

Considerable Shortage (4.21-5.00)

Spec. Ed. - Visually Impaired	4.67
Spec. Ed. - Hearing Impaired	4.55
Spec. Ed. - Emotional/Beh. Dis.	4.50
Science - Physics	4.40
Technology Education	4.40
Science - Chemistry	4.37
Spec. Ed. - Multicategorical	4.36
Spec. Ed. - Severe/Profound Dis.	4.33
Mathematics Education	4.29
Spec. Ed. - Mild/Moderate Disabilities	4.29
Languages - Japanese	4.25
Spec. Ed. - Mental Retardation	4.21

Business Education	2.92
Elementary - Primary	2.82
Elementary - Kindergarten	2.79
Elementary Pre-K	2.76
Theatre/Drama	2.71
Dance Education	2.67

Some Surplus (1.81-2.60)

Social Studies Education	2.55
Physical Education	2.41
Health Education	2.28

Considerable Surplus (1.00-1.80)

None

Some Shortage (3.41-4.20)

Spec. Ed. - Early Childhood Spec. Ed.	4.18
Spec. Ed. - Dual Cert. (Gen./Spec.)	4.18
Superintendent	4.14
Audiologist	4.10
Spec. Ed. - Learning Disability	4.06
Principal - High School	4.06
Speech Pathologist	4.05
Principal - Middle School	4.03
Languages - Spanish	4.02
Science - Earth/Physical	4.02
Principal - Elementary	4.00
Business Manager	4.00
Gifted/Talented Education	4.00
Science - Biology	3.96
English as a Second Language	3.93
Bilingual Education	3.92
Computer Science Education	3.91
Speech Education	3.90
Curriculum Director	3.85
Library Science/Media Tech.	3.85
Agriculture	3.80
Science - General	3.79
Reading	3.59
School Psychologist	3.56
Human Resources Director	3.44
Home Ec/Consumer Science	3.43
Counselor	3.42

Balanced Supply and Demand (2.61-3.40)

Music - Vocal	3.31
Languages - French	3.28
Journalism Education	3.25
Music - Instrumental	3.25
Driver Education Traffic Safety	3.20
School Nurse	3.20
Languages - Classics	3.18
School Social Worker	3.17
Languages - German	3.10
Physical Therapist	3.10
Elementary - Intermediate	3.06
English/Language Arts	3.06
Art/Visual Education	3.04
Occupational Therapist	3.00
Music - General	2.93

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, technology education, and Japanese are reported as in “considerable shortage.”
- ❖ No fields are reported in the “surplus” categories.

Observations and Comments

- ❖ There is an uneven availability of positions for candidates in selected areas.
- ❖ Candidates are generally unwilling to leave the area.
- ❖ State changes in certification/licensure are predicted to significantly reduce the number of candidates produced in Pennsylvania. State certification requirements in New York are also impacting the supply.

Regional Relative Demand By Teaching Area

Region 9

Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

Considerable Shortage (4.21-5.00)

Spec. Ed. - Visually Impaired	5.00
Spec. Ed. - Multicategorical	4.82
Spec. Ed. - Hearing Impaired	4.80
Spec. Ed. - Emotional/Beh. Dis.	4.78
Science - Physics	4.71
Spec. Ed. - Mental Retardation	4.71
Spec. Ed. - Learning Disability	4.70
Mathematics Education	4.67
Spec. Ed. - Severe/Profound Dis.	4.67
Science - Chemistry	4.58
Superintendent	4.56
Spec. Ed. - Mild/Moderate Disabilities	4.50
English as a Second Language	4.38
Principal - High School	4.36
Home Ec/Consumer Science	4.33
Technology Education	4.33
Spec. Ed. - Early Childhood Spec. Ed.	4.30
Bilingual Education	4.29
Principal - Middle School	4.23
Science - General	4.21
Principal - Elementary	4.21

Gifted/Talented Education	3.00
Occupational Therapist	3.00
School Social Worker	3.00
English/Language Arts	2.82
Social Studies Education	2.80
Business Education	2.75
Health Education	2.71
Physical Education	2.70

Some Surplus (1.81-2.60)

None

Considerable Surplus (1.00-1.80)

None

Some Shortage (3.41-4.20)

Science - Biology	4.19
Science - Earth/Physical	4.13
Agriculture	4.00
Computer Science Education	4.00
Driver Education Traffic Safety	4.00
Languages - Spanish	4.00
Spec. Ed. - Dual Cert. (Gen./Spec.)	4.00
Audiologist	4.00
Library Science/Media Tech.	4.00
Speech Pathologist	4.00
Curriculum Director	3.83
Speech Education	3.80
Languages - Classics	3.75
Languages - Japanese	3.75
School Psychologist	3.75
School Nurse	3.71
Music - Vocal	3.67
Music - Instrumental	3.60
Languages - German	3.43

Balanced Supply and Demand (2.61-3.40)

Languages - French	3.40
Elementary - Intermediate	3.39
Counselor	3.36
Music - General	3.33
Theatre/Drama	3.33
Physical Therapist	3.33
Reading	3.17
Elementary Pre-K	3.09
Elementary - Kindergarten	3.04
Art/Visual Education	3.00
Dance Education	3.00
Elementary - Primary	3.00
Journalism Education	3.00
Human Resources Director	3.00
Business Manager	3.00

Data Trends

- ❖ The fields of special education, mathematics, physics, chemistry, general science, bilingual education, ESL, home economics/family consumer science, and technology education are reported as in “considerable shortage.”
- ❖ Administrative shortages were identified for superintendent and principals at all levels.
- ❖ No fields are reported in the “surplus” categories.

Observations and Comments

- ❖ Massachusetts teacher testing has negatively affected both teaching candidates and school districts.
- ❖ A state scholarship/loan program provides full tuition for students. If they stay and teach in their home state after graduation, the loan is forgiven. This may limit the mobility of new graduates.
- ❖ Teacher retirements are predicted to increase teacher shortages in the region.

Appendix D

Participants in the 2001 AAEE Supply and Demand Study

Region 1

Albertson College
Boise State University
Eastern Oregon University
Eastern Washington University
Lewis - Clark State College
Lewis and Clark College
Northwest Nazarene University
Oregon State University
Portland State University
Seattle University
University of Washington
Western Washington University
Whitworth College
Willamette University

Region 2

Arizona State University
Brigham Young University
Cal. State Univ. - Fresno
Cal. State Univ. - Long Beach
Cal. State Univ. - Los Angeles
Cal. State Univ. - Northridge
Cal. State Univ. - Sacramento
Calif. State Univ. - San Marcos
California Polytechnic State Univ.
California State University, Bakersfield
Concordia University
Hope International University
Humboldt State University
The Master's College
Pacific Union College
Pepperdine University
Point Loma Nazarene College
Saint Mary's College of California
University of Arizona
Univ. of California - Berkeley
Univ. of California - Davis
Univ. of California - Irvine
University of La Verne
University of the Redlands
University of San Diego
University of Utah
Vanguard University
Weber State University
Westminster College of Salt Lake City

Region 3

College of Santa Fe
Colorado College
Montana State University - Northern
New Mexico Highlands University
Rocky Mountain College
University of Denver
University of Montana
The University of Montana - Western
Western New Mexico University

Region 4

Augustana College
Baker University
Bemidji State University
Bethany College
Black Hills State University
Buena Vista University
Central College
Central Methodist College
Central Missouri State University
Coe College
College of St. Benedict
The College of St. Catherine
Concordia College
Concordia University
Concordia University - St. Paul
Cornell College
Creighton University
Dakota State University
Dana College
Dickinson State University
Dordt College
Drake University
Emporia State University
Fontbonne College
Fort Hays State University
Grinnell College
Gustavus Adolphus College
Iowa State University
Jamestown College
Kansas State University
Lindenwood College
Luther College
Macalester College
Mayville State University

MidAmerica Nazarene University
Midland Lutheran College
Minnesota State University, Mankato
Minot State University
Missouri Western State College
Morningside College
Mount Mercy College
Nebraska Wesleyan University
Northern State University
Park University
Pittsburg State University
Rockhurst College
Simpson College
Sinte Gleska College
South Dakota State University
South Dakota Teacher Placement Center
Southeast Missouri State University
Southwest Baptist University
Southwest State University
Tabor College
Truman State University
The University of Kansas
Univ. of Minnesota - Twin Cities
Univ. of Missouri - Columbia
Univ. of Missouri - Kansas City
University of Missouri - St. Louis
Univ. of Nebraska - Lincoln
Univ. of Nebraska at Kearney
University of Nebraska at Omaha
University of North Dakota
University of Northern Iowa
University of Sioux Falls
Upper Iowa University
Valley City State University
Walsh University
Washburn University
The Wichita State University
Winona State University
York College

Region 5

Abilene Christian University
Angelo State University
Arkansas State University
Arkansas Tech University
Cameron University
East Central University
Hardin-Simmons University
Harding University
Jarvis Christian College
Lamar University
Louisiana State University
Louisiana State University-Shreveport
McMurry University
Oklahoma State University
Ouachita Baptist University
Our Lady of the Lake University
Philander Smith College
Southeastern Oklahoma State University
Southwest Texas State University
Southwestern University
St. Mary's University
Stephen F. Austin State University
Tarleton State University
Texas A & M International University
Texas A & M University
Texas A & M University - Commerce
Texas Christian University
Texas Southern University
Texas Tech University
Texas Wesleyan University
University of Mary Hardin-Baylor
University of North Texas
University of Oklahoma
University of Science & Arts of Oklahoma
University of Texas - Arlington
University of Texas at Dallas
University of Texas at El Paso
University of the Ozarks
West Texas A & M University
Xavier University of Louisiana

Region 6

Alabama A&M University
Alcorn State University
Athens State University
Belmont Abbey College
Bennett College
Berry College
Blue Mountain College
Bluefield College
Bluefield State College
Brescia University
Bryan College

Campbell University
Campbellsville University
College of Charleston
Concord College
Cumberland College
Cumberland University
Delta State University
Duke University
East Carolina University
East Tennessee State University
Edward Waters College
Elizabeth City State University
Faulkner University
Florida Memorial College
Florida State University
Fort Valley State University
Freed-Hardeman University
Greensboro College
High Point Univ.
James Madison University
Lambuth University
Lincoln Memorial University
Lindsay Wilson College
Longwood College
Marshall University
Marshall University Grad. College
Mary Washington College
Middle Tennessee State University
Mississippi College
Mississippi State University
Murray State University
Newberry College
North Carolina Wesleyan College
North Georgia College and State University
Northern Kentucky University
Nova Southeastern University
Oakwood College
Palm Beach Atlantic College
Pikeville College
Radford University
Roanoke College
Rollins College
Rust College
Salem College
Samford University
Spalding University
St. Thomas University
State University of West Georgia
Tennessee Technological University
Tennessee Temple University
Tennessee Wesleyan College
The University of Memphis
Toccoa Falls College
University of Florida
University of Louisville
Univ. of NC at Asheville
Univ. of NC at Chapel Hill
Univ. of NC at Charlotte
Univ. of NC at Pembroke
University of Richmond
The University of Southern Mississippi
Virginia Commonwealth University
West Virginia University
West Virginia Wesleyan College
Western Carolina University
Western Kentucky University
William Carey College
Winston-Salem State University
Wofford College

Region 7

Adrian College
Aurora University
Baldwin-Wallace College
Ball State University
Barat College of DePaul University
Bowling Green State University
Butler University
Capital University
Central Michigan University
Cleveland State University
College of Mount St. Joseph
Concordia University
Cornerstone University
The Defiance College
Denison University
DePaul University
DePauw University
Eastern Illinois University
Eastern Michigan University
Franklin College
Governors State University
Grand Valley State University
Heidelberg College
Hillsdale College

Hope College
Huntington College
Illinois State University
Illinois Wesleyan University
Indiana University - Bloomington
Indiana University Southeast
Judson College
Knox College
Lake Erie College
Lakeland College
Lawrence University
Malone College
Manchester College
Marian College of Fond du Lac
Marietta College
Miami University
Monmouth College
Mount Mary College
National-Louis University
North Central College
North Park University
Northeastern Illinois University
Northern Illinois University
Northern Michigan University
Oakland City University
Ohio Northern University
The Ohio State University
The Ohio State Univ. Mansfield Campus
Ohio Wesleyan University
Purdue U. North Central
Purdue University
Purdue University Calumet
Saint Mary's College
Saint Xavier University
Sierra Heights University
Silver Lake College
Southern Ill. Univ. at Carbondale
Spring Arbor University
St. Norbert College
Tri-State University
Trinity Christian College
The University of Akron
University of Dayton
Univ. of Ill. at Chicago
University of Illinois - Springfield
Univ. of Ill. at Urbana - Champaign
Univ. of Wisconsin - La Crosse
Univ. of Wisconsin - Madison
Univ. of Wisconsin - Oshkosh
Univ. of Wisconsin - Parkside
Univ. of Wisconsin - Platteville
Univ. of Wisconsin - River Falls
Univ. of Wisconsin - Stout
Univ. of Wisconsin - Superior
Univ. of Wisconsin - Whitewater
University of Michigan
University of Michigan-Flint
University of Southern Indiana
The University of Toledo
Ursuline College
Walsh University
Wayne State University
Western Illinois University
Wheaton College
Wisconsin Lutheran College
Wittenberg University
Wright State University
Youngstown State University

Region 8

Albright College
Alfred University
Alvernia College
Barnard College, Columbia University
Bloomsburg University
California Univ. of Pennsylvania
Centenary College
Clarion Univ. of Pennsylvania
The College of St. Rose
Cornell University
Dickinson College
Edinboro University of Pennsylvania
Elizabethtown College
Elmira College
Gwynedd-Mercy College
Immaculata College
Indiana Univ. of Pennsylvania
Juniata College
King's College
La Salle University
Le Moyne College
Lock Haven University
Long Island University
Mansfield University
Marywood University

Messiah College
Millersville Univ. of Pennsylvania
Moravian College
Morgan State University
Muhlenberg College
Nazareth College of Rochester
New York Institute of Technology
New York Institute of Technology
The Pennsylvania State University
Point Park College
Rutgers - The State Univ. of N. J.
Rutgers University
Saint Francis University
Seton Hall University
Seton Hill College
Shippensburg University of Pennsylvania
Slippery Rock University
St. Francis College
St. John's College
St. Lawrence University
St. Mary's College of Maryland
State Univ. of NY Coll. at Buffalo

State Univ. of NY Coll. at Cortland
State Univ. of NY Coll. at Fredonia
State Univ. of NY Coll. at Geneseo
State Univ. of NY Coll. at Oswego
SUNY at Stony Brook
SUNY College at Brockport
University at Buffalo
University of Delaware
Univ. of Maryland
University of Pittsburgh at Johnstown
Ursinus College
Utica College
Washington & Jefferson College
Wells College
West Chester University
Westminster College
Widener University
Wilkes University
William Paterson University

Region 9

Berklee College of Music
Central Connecticut State University
Eastern Connecticut State Univ.
Franklin Pierce College
Harvard Grad. School of Education
Keene State College
Lesley University
New England College
Notre Dame College
Rhode Island College
Rivier College
Saint Joseph College
Simmons College
Smith College
Springfield College
Tufts University
University of Hartford

University of Maine
University of Maine at Farmington
University of Southern Maine
University of Vermont
Vermont College of Norwich University
Wheelock College
Worcester State College
World Learning

Region 10

University of Alaska Fairbanks

Region 11

Brigham Young University - Hawaii
Chaminade University
University of Hawaii at Manoa



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